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THE PHENOLSULPHONEPHTHALEIN TEST IN CHRONIC NEPHRITIS *

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Ever since Schlayer and his co-workers elaborated their system of differential renal function testing, much attention has been given to the subject of kidney function tests in nephritis. Clinical requirements demand not only that such a procedure shall be simple and easily available for clinical employment, but that it shall be of demonstrated accuracy; otherwise it may lead to faulty deductions in prognosis and possibly to blunders in diagnosis. However attractive it may appear from the pathologic point of view, to estimate the degree to which the different anatomic elements of the kidney are involved, it would seem that the mixed type of nephritis encountered clinically practically disposes of the attempt to weave fine diagnostic distinctions about the reactions secured by differential function tests. With clinical nephritis of the simplest type, there is enough general structural involvement to make conclusions as to special function involvement hazardous.

Many considerations render the study of renal function in detail an extremely complex problem. To base conclusions on differential tests assumed to reveal glomerular, tubular or vascular impairment necessarily implies that we can test the individual functions of the kidney, and presupposes a much more definite knowledge of the physiology of that organ than we in fact possess. Moreover, it is only in acute fatal cases of nephritis that anything like pure system involvement—glomerular or tubular—exists. As the matter stands, the only methods available for clinical usage are such as furnish information regarding the total function of the kidneys—their general excretory capacity.

THE PHENOLSULPHONEPHTHALEIN TEST

Tests for estimating general renal efficiency have consisted mainly of the introduction of various dye substances, which are excreted more or less completely in the urine. General agreement accords first place among these tests to the phenolsulphonephthalein test of Rowntree and Geraghty,[1] introduced in 1910. It was at first employed most extensively in surgical cases, especially with reference to the question of operations on the urinary organs. It is equally applicable to medical cases, but the results are considerably more difficult of interpretation, and it is only recently that sufficient observations have accumulated to give it a fixed status in this class of cases. The harmlessness and simplicity of the test render it an easily available clinical procedure. In its application to nephritis Rowntree and Geraghty have shown from careful clinical and pathologic studies that the amount of phenolsulphonephthalein excreted varies as a general rule in rough ratio with the extent of the renal damage. In fatal uremia only traces or none at all of the dye appear in the urine for the two-hour interval, while in mild and moderate grades of nephritis the amount recovered from the urine may be normal or nearly so. These authors assert further that in cardiorenal cases when the heart is failing and the kidneys become passively engorged, a low phenolsulphonephthalein output is observed at first, rapidly rising subsequently as the heart action improves and venous engorgement subsides. An increase in the phenolsulphonephthalein index in such a case may be the earliest sign of restoration of compensation and represents a favorable prognosis. *Per contra*, a low excretory capacity, persisting after clinical evidence of cardiac improvement, points to a severe nephritis and a less favorable prognosis.

The authors of the test emphasize the purely empiric character of the investigation, owing to our lack of sound information as to the physiology of urinary secretion, and while attaching a high degree of prognostic value to its findings when positive and clear cut, they warn against too general prognostic interpretation, inasmuch as the test yields information only so far as renal efficiency or inefficiency can be estimated, whereas death may occur in chronic nephritis from many other factors, cardiac and cerebral in particular, concerning which the test gives little if any information. This method in common with other function tests must in consequence be considered always in conjunction with general clinical study; otherwise prognosis is made dependent on laboratory technic, which is always a hazardous alternative.

Coincidently with the investigation of the functional adequacy of the kidneys in nephritis, attention has been directed to the estimation of the incoagulable or nonprotein nitrogen of the blood as offering a valuable means for securing information of prognostic value. Studies of this nature are particularly to be desired in the investigation of nephritis, since urine analysis cannot reveal the stage of accumulation of waste products, an accumulation that may vary from almost normal figures to enormous increase in uremia.

* Read before the Chicago Society of Internal Medicine, March 22, 1915.

1. Rowntree, L. G., and Geraghty, J. T.: Jour. Pharmacol. and Exper. Therap., 1910, i, 579; ibid., 1911, ii, 393; The Phthalein Test—an Experimental and Clinical Study of Phenolsulphonephthalein in Relation to Renal Function in Health and Disease, Arch. Int. Med., March, 1912, p. 284.

THE INTERPRETATION OF RESULTS

Although the technic for nonprotein nitrogen determination offers no difficulties to the well-equipped chemical laboratory, it is so technical and time-consuming as to be beyond the capabilities of the clinician for routine employment. Studies of renal efficiency by the phenolsulphonephthalein test consequently offer great advantage as to convenience and ease of application. The chief drawback attaching to this method of estimating kidney permeability lies in the interpretation of results, for it is quite conceivable that the rate of elimination of a foreign dye substance may bear no definite relationship to the efficiency of the kidneys in excreting metabolism products.

Cases have been reported (Foster,[2] Baetjer[3]) in which the phenolsulphonephthalein test gave practically normal figures, yet fatal uremia resulted shortly after the tests were made.

Rowntree, Fitz and Geraghty[4] assert that phenolsulphonephthalein is excreted solely by the tubular epithelium, a contention supported by Potter and Bell[5] from their studies of experimental tartrate nephritis and it is conceivable that these reported cases may have been nephritis of predominantly glomerular type.

Such excretory paradoxes emphasize the loopholes for error in any general interpretation, however firmly the rule may appear to be established by results. The same thing is true of nonprotein blood nitrogen estimations in nephritis, a number of instances being reported in the literature, of uremia developing in the face of normal waste nitrogen content. However obscure and against the rule such exceptions may be, they serve to establish a discount against too rigid interpretation of any routine investigation. They serve to accent our ignorance of the exact nature of uremia and leave open the question of whether so profound a disturbance of the entire metabolism as results from severe nephritis there may not be some other factor, in addition to the action of urinary retention bodies, which is as yet unappreciated.

As the nonprotein index in the blood is admittedly the most reliable criterion of renal efficiency, it is desirable to correlate the elimination of phenolsulphonephthalein with the actual retention of nitrogenous waste in the blood. This has been undertaken by Frothingham, Fitz, Folin and Denis[6] in experimental uranium nephritis. The results of their investigation demonstrate that in general the tests parallel each other as indicators of renal function, varying from normal during the course of the nephritis and returning to normal as the nephritis heals, with this important difference, that, whereas the amount of phenolsulphonephthalein excreted shows the renal function at the time of the test, the amount of nonprotein nitrogen of the blood measures the accumulating difference between the production of waste nitrogen bodies in the metabolism and the quantity excreted.

The time element — the duration of the nephritis — becomes, therefore, an important factor in the result. It has long been known that during the course of any nephritis there are certain periods when the urinary constituents are normal in amount as compared with the intake, and other periods when they may be increased or decreased. These functional eccentricities of the kidneys, imperfectly understood, may have a bearing on some of the inconsistencies of excretory tests. Frothingham and Smillie[7] carried out a series of observations on the nonprotein nitrogen and the phenolsulphonephthalein excretion in seventy-seven cases of chronic nephritis. From their charts it appears that the phenolsulphonephthalein excretion steadily falls as the amount of nonprotein nitrogen of the blood increases, phenolsulphonephthalein practically ceasing to appear in the urine when the nonprotein nitrogen reaches 100 mg. (four to five times normal). In a moderate number of cases a surprisingly low phenolsulphonephthalein output was shown for which no cause could be found, either from clinical findings or laboratory tests. They consider it fair to state that a considerable individual variation above and below the expected average may occur with the phenolsulphonephthalein test for which no explanation can be found.

In the main, the relation between nonprotein values and clinical findings is fairly exact. No nonnephritic cases showed accumulation. All their cases with nonprotein nitrogen above 50 mg. per 100 c.c. of blood gave clinical evidence of severe nephritis. In some of these cases the phenolsulphonephthalein excretion was unexpectedly good. On the whole, however, the nonprotein nitrogen varied inversely with the excretion of phenolsulphonephthalein in the urine. The accumulation of waste nitrogen seemed to be much less influenced by cardiac and other complicating factors than was phenolsulphonephthalein excretion.

Agnew[8] undertook studies to determine what relation, if any, existed between phenolsulphonephthalein output and nonprotein nitrogen of the blood. He concludes that, in general, cumulative phenomena occur only when the excretion of phenolsulphonephthalein falls below 40 per cent. in two hours. This is in keeping with the observations of Folin, Denis and Seymour.[9] Tileston and Comfort[10] found that cases of chronic nephritis without symptoms of uremia showed normal or only moderate cumulative signs, the uremic cases, on the contrary, yielding a great increase in the nonprotein blood nitrogen, the excretion of phenolsulphonephthalein being roughly proportionate to the degree of retention.

Rowntree, Fitz and Geraghty[4] show that chronic passive congestion of the kidneys gives rise to reduced secretion of phenolsulphonephthalein in the urine, without marked increase in the incoagulable nitrogen of the blood, and Agnew[8] has been able by this contrast to separate cardiac from chiefly renal involvement. Foster[11] points out that while this holds true

2. Foster, Nellis B.: Functional Tests of the Kidney in Uremia, Arch. Int. Med., October, 1913, p. 452.
3. Baetjer, William A.: Superpermeability in Nephritis, Arch. Int. Med., June, 1913, p. 593.
4. Rowntree, L. G.; Fitz, R., and Geraghty, J. T.: The Effects of Experimental Passive Congestion on Renal Function, Arch. Int. Med., February, 1913, p. 121.
5. Potter, A. C., and Bell, E. T.: Am. Jour. Med. Sc., 1915, cxlix, 236.
6. Frothingham, Jr., C.; Fitz, R.; Folin, O., and Denis, W.: The Relation Between Non-Protein Nitrogen Retention and Phenolsulphonephthalein Excretion in Experimental Uranium Nephritis, Arch. Int. Med., September, 1913, p. 245.
7. Frothingham, Jr., Channing, and Smillie, Wilson G.: The Relation Between the Phenolsulphonephthalein Excretion in the Urine and the Non-Protein Nitrogen Content of the Blood in Human Cases, Arch. Int. Med., October, 1914, p. 541.
8. Agnew, J. Howard: Comparative Study of Phenolsulphonephthalein Elimination and Incoagulable Nitrogen of the Blood in Cardiorenal Diseases, Arch. Int. Med., March, 1914, p. 485.
9. Folin, Otto; Denis, W., and Seymour, Malcolm: The Non-Protein Nitrogen Constituents of the Blood in Chronic Vascular Nephritis (Arteriosclerosis) as Influenced by the Level of Protein Metabolism, Arch. Int. Med., February, 1914, p. 224.
10. Tileston, Wilder, and Comfort, C. W.: The Total Non-Protein Nitrogen and Urea of the Blood in Health and in Disease as Estimated by Folin's Methods, Arch. Int. Med., November, 1914, p. 620.
11. Foster, Nellis B.: Uremia. The Non-Protein Nitrogen of the Blood, Arch. Int. Med., March, 1915, p. 356.

for lesser grades of circulatory embarrassment, it might not prove a reliable criterion in the severest types of purely circulatory disturbance in which nonprotein nitrogen accumulation is not infrequently observed.

Thayer and Snowden[12] make an important contribution from the clinical side. These authors attempt to throw some light on the clinical value of the phenolsulphonephthalein test in prognosis by comparing their findings with the test and the anatomic alterations revealed at necropsy in fifty-four cases of nephritis of different types. In no instance of grave nephritis did they fail to find a material reduction in phenolsulphonephthalein excretion. Their study reveals a progressive diminution in the output of the dye, which they consider so definite as to give the test a considerable prognostic value. They conclude that there occurs in severe chronic nephritis a uniformly low phenolsulphonephthalein excretion, which, as a rule, in those instances not interrupted by an acute terminal process, decreases steadily up to the onset of uremia and is nearly or wholly suppressed from a day or two to a month before death. Acute terminal uremic developments which may be unsuspected clinically are common, and here a sudden diminution in the elimination of phenolsulphonephthalein may come on in cases in which the percentage previously excreted is not so low as to appear alarming. In not a single instance, and, indeed, not once in all their studies for five years, have these authors met with a good phenolsulphonephthalein excretion in a case of severe chronic nephritis. Their observations with the test in twenty cases of chronic passive congestion conform with the findings of Rowntree and Fitz,[13] and they consider it clear that chronic passive renal congestion alone can result in marked reduction of phenolsulphonephthalein excretion, which may return to normal as cardiac compensation is reestablished.

VALUE OF THE TEST

The foregoing discussion briefly reviews the main facts brought out by investigation that furnish our warrant for the employment of this test in clinical practice. Accumulating clinical observation and the fact that results with the phenolsulphonephthalein test in the main parallel the estimation of nonprotein nitrogen of the blood encourage the belief that the findings are, within certain limitations, reliable for prognostic purposes. In interpreting its findings it is to be remembered that the test shows the functional power of the kidneys at the time of observation and for the dye only. The influence of passive renal congestion from cardiac causes is to be borne in mind. If excretory values are low and cardiac insufficiency be not present as a complicating factor, we should not disregard the warning simply because clinical indications of uremia are absent, and, on the other hand, if symptoms indicate danger, their significance is not to be neglected merely because phenolsulphonephthalein excretion approaches normal. Some experience with this test as a routine clinical procedure covering a period of two years encourages me to believe that it constitutes a method of value in nephritis and high pressure states generally. In my observations I have found that excretory response to the test is on the average higher in ambulatory cases tested in office practice than in hospital cases, and this irrespective of the clinical condition present. This is, perhaps, as might be expected, owing to the more general functional decline in patients confined to bed. A comparison of age with functional response would appear to confirm the observation of Miller and Cabot[14] that the excretion of phenolsulphonephthalein grows progressively less with advancing years.

It is extremely doubtful whether the phenolsulphonephthalein test can be employed to any important extent in the diagnosis of nephritis. Routine observations with the method show an output well within normal requirements in the majority of cases classed as nephritis with good cardiac compensation. The latency of chronic nephritis is well known and the inadequacy of clinical observation alone accurately to gage the degree of renal impairment is granted by all experienced observers. Any method that will assist the clinician in obscure cases to arrive at a more accurate knowledge of the organic inroads on kidney secreting structure will consequently be welcomed. It may happen that the renal efficiency test may occasionally prove of service in this direction. Rowntree[15] cites the case of a boy who prior to the function test was looked on as having diabetes insipidus, but who, after one phenolsulphonephthalein test, was recognized as having advanced nephritis verging on uremia, a diagnosis substantiated at necropsy two weeks later.

Recently the test was instrumental in contributing to the better diagnosis of a case under my own observation.

> The patient, a young man of robust habit and healthy appearance, complained of cardiac palpitation and vague precordial distress, with a sense of lassitude. Physical examination revealed a moderate degree of cardiac hypertrophy; blood pressure, systolic 160, diastolic 90. The urine was normal in all respects except for the presence of a very few hyaline casts. The best excretion index that could be secured with the phenolsulphonephthalein test was 30 per cent. in two hours. This was interpreted as giving a more serious aspect to his clinically latent nephritis than would have been indicated on clinical and urinary grounds alone.

Perhaps the most important service this test may render us in nephritis is in the diagnosis of obscure uremic conditions. During the course of any case of chronic nephritis there may arise gastro-intestinal, cerebral, visual or other functional disturbances, the uremic nature of which may be strongly suspected. Decisive action is necessary, although clinical grounds may be insufficient for a definite judgment regarding the uremic nature of the symptoms. Without loss of valuable time the phenolsulphonephthalein test will reveal promptly the degree of uremia present.

A type of case that often presents some difficulties in diagnosis is so-called cardiorenal disease. In this condition the blood pressure ranges high, cardiac sclerosis is a prominent factor, and urinary signs signify that the kidneys share in the general arterial involvement. It is not always an easy matter to estimate the relative importance of the cardiac and renal moieties and to decide whether to regard the case from one or the other angle. I have found the renal sufficiency test of assistance in elucidating this point.

12. Thayer and Snowden: Am. Jour. Med. Sc., 1914, cxlviii, 781.
13. Rowntree, L. G., and Fitz, R.: Studies of Renal Function in Renal Cardiorenal and Cardiac Disease, Arch. Int. Med., March, 1913, p. 258.
14. Miller, Richard H., and Cabot, Hugh: The Effects of Anesthesia and Operation on the Kidney Function, as Shown by the Phenolsulphonephthalein Test, Arch. Int. Med., March, 1915, p. 369.
15. Rowntree, L. G.: Am. Jour. Med. Sc., 1914, cxlvii, 352.

My experience with the test would lead me to believe that it may prove of service when employed at periodic intervals in keeping track of the progress of a case and as a more accurate means of watching the effect of treatment than we possess by other means. By applying the test at intervals, the rise and fall in function index forms an interesting and possibly significant chart. How far we can trust the indications gained by routine observation of this sort is difficult to state, but there appears no obvious reason why we should not place some dependence on them. Rowntree and Geraghty report that if surgical patients were given careful preoperative treatment when the elimination of the phenolsulphonephthalein was dangerously low, a marked improvement in elimination occurred. It has been my experience that a steady improvement in the kidney function index may be expected following treatment in cases of nephritis not too far advanced. Mere rest in bed, strict diet and regulation of elimination will ordinarily effect such a result. In advanced cases bordering on uremia, it is rare to observe an improvement following treatment.

A point of possible importance to bear in mind in the interpretation of defective function response in chronic nephritis is the occasional existence of subacute exacerbations. The progress of many cases of chronic nephritis is punctuated by the occurrence of acute inflammatory phases resulting from intercurrent infections or severe kidney irritation. During the existence of such a phase, the excretion of phenolsulphonephthalein may be temporarily reduced much below average figures for the case, and for the time being low values may be observed. A case coming under observation at such a time may appear more grave when viewed from the standpoint of function response than might be justified by the subsequent progress of the case.

General experience with the test has verified the observations of Rowntree and Geraghty regarding the influence of passive renal congestion in interfering with phenolsulphonephthalein excretion. As is well known, contracted kidney cases and cardiorenal diseases generally are, during the later stages, to a large degree cardiac cases, the element of cardiac failure entering to a very important degree into the disabilities of the terminal stage. Broken cardiac compensation as a rule interferes very considerably with the excretion of phenolsulphonephthalein, values well below the safety line appearing with fair constancy along with cardiac edema in chronic nephritis and high blood pressure states. Unless we accord to the cardiac factor its due importance in this regard, we may be led erroneously to anticipate the advent of uremia, and to address our measures of treatment to the kidneys instead of to the heart as they should be.

In view of the clinical vagaries of chronic nephritis, which are notorious, it is perhaps not surprising to meet with glaring inconsistencies in the clinical application of this test. Cases that appear very grave on general clinical and urinary grounds are often found to yield a normal or nearly normal function index, and conversely, instances that appear to be on safe functional ground when judged by purely clinical findings, yield surprisingly low values when kidney efficiency is tested out. Just how we are to strike a balance between the two is often difficult to judge, but in view of the long recognized fact that it is impossible to predict accurately by clinical study alone what course the disease will take in development, it would appear that we should at least accept the results of function study as a qualifying factor in prognosis. It is surprising how long certain cases of chronic nephritis will survive after the excretion of phenolsulphonephthalein is reduced to a mere trace or suppressed entirely; weeks and even months may go by before death ensues after this apparently terminal phenomenon has appeared. No absolute prognosis as to duration of life appears possible on functional findings alone, because we do not yet know how low the phenolsulphonephthalein excretion may go and yet be compatible with a renal efficiency sufficing to maintain life, provided the diet and hygiene of the patient are properly adjusted (Arnold[16]).

DIET THERAPY AND THE TEST

Diet therapy in nephritis is dominated by the principle of protein restriction. Our practice in this important item has hitherto been governed by empiricism without scientific control. So far as can be seen at the present time, the only reliable criterion available for regulating the protein intake in nephritis is the determination of the amount of waste nitrogen retention by blood analysis. That it is possible to reduce the urea waste nitrogen of the blood to normal or less is abundantly proved by the feeding experiments of Folin, Denis and Seymour,[9] and of Frothingham and Smillie.[17] Cases with a considerable retention require a restriction of protein, and by this means a return to normal may be brought about provided the azotemia be not too severe. In case of outspoken uremia no marked reduction of the azotemia results from a protein-free diet. Folin, Denis and Seymour state that the response to the phenolsulphonephthalein test can be reduced by one-half before abnormal accumulation of nonprotein nitrogen takes place in the blood. This estimate is in keeping with Agnew's statement that at 40 per cent., phenolsulphonephthalein excretion, cumulative phenomena appear in the blood. These observations may justify the assumption in clinical practice that when the response to the phenolsulphonephthalein test drops to 40 per cent. or lower in two hours, waste nitrogen blood accumulation is present.

Routine observations with this readily available test may thus enable us to appreciate with greater precision than is possible from clinical observation alone the point (40 per cent. or lower) where positive protein restriction becomes necessary. When the functional index is normal or nearly normal in contracting kidney, it is difficult to understand what harm will result to the kidneys, provided no inflammatory element is present, from a protein ration based on physiologic requirements. Aided by periodic functional testing to check up the functional integrity of the kidneys, and with our present knowledge of physiologic food requirement for good nutrition, the diet therapy of chronic nephritis may be adapted with reasonable safety, if not perhaps with accuracy, and with due realization that in so chronic and widespread a disease general nutrition and kidney conservation should stand on a parity.

30 North Michigan Boulevard.

16. Arnold: Boston Med. and Surg. Jour., 1914, clxx, 601.
17. Frothingham, Jr., Channing, and Smillie, Wilson G.: A Study of Different Nitrogenous Diets in Chronic Nephritis, Arch. Int. Med., February, 1915, p. 204.

THE ORGANIZATION AND ACTIVITIES OF THE INTERNATIONAL HEALTH COMMISSION

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The International Health Commission was created in June, 1913, by the Rockefeller Foundation as its first important act after receiving a charter from the state of New York. Its expressed object is "the promoting of public sanitation and the spread of the knowledge of scientific medicine." Its immediate task contemplates the extension of measures for the relief and control of uncinariasis or hookworm disease to those countries and peoples where conditions invite. This phase of the work is already well under way. Active measures are in progress in several territorial units in the Southern States, Central America, the West Indies, British Guiana and Egypt; and other countries have signified a desire to have the cooperation of the International Health Commission.

In order to give a clear understanding of the plan of organization and the working methods of this commission, I shall review briefly the work of the Rockefeller Sanitary Commission, from which it has developed as a natural outgrowth. The Sanitary Commission was organized by Mr. John D. Rockefeller in 1909, and was granted a million dollars to be used during the ensuing five years toward the eradication of hookworm disease in the United States. This commission was composed of thirteen of the country's leading educators, physicians and business men.

Mr. Wickliffe Rose, executive secretary of the Southern Education Board and general agent of the Peabody Education Fund, was selected as administrative head of the work, with the title of "administrative secretary." Mr. Frederick T. Gates, adviser to Mr. Rockefeller and the chairman of the General Education Board, was elected chairman. As scientific secretary, Dr. Charles W. Stiles was elected. It was Dr. Stiles who discovered the presence and prevalence of the disease in the South, identified as its cause a new type of hookworm termed by him the *Necator americanus*, and did much to center the attention of the profession, the public and Mr. Rockefeller's advisers on its baneful influences.

Mr. Rose opened offices in Washington in January, 1910, and proceeded to organize the work. For obvious reasons the state board of health of each state was selected as the agency through which to undertake the work. Where a health department was weak, he endeavored to aid in strengthening it; and where there was no health department, he sought to help lay the foundations for developing one. The work was always conducted in the name of the state board of health. In each of the eleven states with which the commission cooperated, a state director was appointed by the joint action of the public health authorities and the commission. This director became a state official—an officer of the state department of health—clothed with the powers and responsibilities of the office. He was the organizing and directing head of all the work in the state for the eradication of hookworm disease, and was responsible for results. He worked under the general supervision of the state department; he made reports quarterly to the state department, and through the department to the commission. Under his direct supervision was a force of from three to six physicians as field directors, each of whom was generally assisted by one or two trained microscopists.

On this general plan, eleven states invited and received the cooperation of the commission: Virginia, North Carolina, Georgia, South Carolina, Tennessee, Arkansas, Mississippi, Alabama and Louisiana between February and November, 1910; and Kentucky and Texas in 1912. The remainder of 1910 and a portion of 1911 were devoted to perfecting the state organizations, to educational propaganda, to survey work and to the trying out of working methods.

In beginning the work, the cooperation of the physicians, the educational forces and the press, was successfully enlisted. The educated public soon began to regard hookworm disease as a problem worthy of serious consideration. Working methods were gradually developed on the basis of actual experience under varying conditions. These methods have been growing more systematic, the efforts more intensive and the results more definite.

The work in the beginning consisted very largely in visiting physicians, interviewing them, demonstrating the microscopic technic in recognizing the disease and urging physicians to make examination for its presence a routine in their practice. The essential facts about the disease were prepared in popular form and distributed broadcast over the state—through the newspapers, in leaflets and pamphlets, and by means of circular letters. Lectures to public audiences and to schools were employed as a feature of the work at this stage. Soon, the laity was ready to aid in determining the extent to which the disease prevailed; that is to say, specimens for examination could be obtained with reasonable effort. The state militia was first examined; then children in the various orphanages. When these investigations were completed, and the results published, it was found feasible to have the children in the public schools examined. Squeamishness began to disappear, and the work of examining schoolchildren proceeded rapidly. A group, usually of two hundred children or more, taken at random, was examined in every county, or at least in representative counties. Thus, the prevalence and distribution of the disease were established with reasonable accuracy. In visiting the schools, the field directors also inspected the sanitary conditions of the country homes on the roadside and recorded their observations in each instance.

At this juncture stock was taken. It was observed that the survey work was highly satisfactory. The disease, varying in different localities within the state, and even within the counties, was found to exist among from 10 to 90 per cent. of the people. But the record of cures was small. In December, 1910, Mississippi tried, for indigent cases, the dispensary plan that had worked so successfully in Porto Rico for the whole of the infected population. It was found to be very satisfactory in that state, not only for the indigent cases but also for all who applied. It was soon tried elsewhere, and speedily became in all the states the agency around which the chief activities centered. It provided a means for effective teaching by actual demonstration.

It is still employed in some of the states, which are completing the work with aid from the International Health Commission, in a few of the heavily infected

counties that could not be reached before Dec. 31, 1914, which marked the close of the five-year period covered by the pledge of Mr. Rockefeller to the Rockefeller Sanitary Commission. A summary of the work through the dispensaries and through the increased activities of the physicians showed, by the close of 1914, that much had been accomplished in the South in treating the disease. The number of persons microscopically examined was 1,273,850. The number of persons treated and reported was 694,516. Of these, 254,118 were treated and voluntarily reported by the physicians, and 440,398 were treated in the dispensaries.

This county dispensary work was very strenuous for the field forces. County appropriations for local expenses had to be secured; the campaigns had to be advertised and wide interest quickly created. A different dispensary had to be reached every day, often by traveling over miles of rough roads; frequently from one to five hundred people had to be examined during a day, lectured to, the infected ones treated and a complete and accurate record of each case kept. This meant that the men were often out on the day's task from dawn until long after nightfall; but they loved the work and were convinced that the effort was well worth while.

It is to be doubted whether an equal number of men could have been found who would have worked harder, or more effectively, or who would have accomplished so much in the same length of time by any other methods. The population and area to be reached were vast; the funds, and consequently the size of the working force, were limited; the time for completing the work was short, and the county dispensary campaigns were consequently limited to periods ranging from four to eight weeks—a time insufficient to develop satisfactorily the sanitary features of the campaign along with the curative measures.

Obviously, the next development in methods called for a lengthening of the working period; limiting the area to be worked, intensifying the efforts and putting into effect both curative and sanitary measures. This modified plan of work was very satisfactorily developed, during the closing months of the Rockefeller Sanitary Commission, in four states which were early in completing the dispensary work. It was completed before the close of 1914 in twelve communities, each having an area averaging in size about 32 square miles and an average population exceeding a thousand persons (1,025, to be exact). The working period in each averaged about four months. The work was done by a field director, who in some cases was aided by a microscopist. Of the 12,305 persons in the twelve communities, 75 per cent. were examined; 26 per cent. were found infected and 94 per cent. of these were treated and probably cured. Twenty-nine per cent. of them were actually reexamined after a course of treatment and all found to be cured.

In these communities there were 2,257 homes. Fifty per cent. of them in the beginning had no kind of privy, and the privies found were seldom, if ever, sanitary. When the work closed 88 per cent. of the homes had privies, and 81 per cent. of these were of an improved type. The work in some communities was, of course, further advanced than in others. In fully a third of the communities, every family had an improved privy and every person found infected was treated.

This intensive work deserves special attention. It has been carried one step farther by British Guiana. In selected areas of British Guiana there are two staffs at work, under the general supervision of the Surgeon-General. The sanitary staff, financed by the government, enters the area first. It gives the area a thorough cleaning, attends to drainage and enforces compulsory measures requiring every family to provide itself with an approved privy, and to use it and care for it. When this staff completes its work, it moves into another area, leaving in the district a sufficient number of sanitary inspectors, employed permanently by the government, to insure the maintenance of the improved sanitary conditions.

The second staff is medical, and is financed through the local government by the International Health Commission. It aims at the examination of every person in the working area, and the treatment until cured of every person found infected.

This plan insures the development of adequate public health agencies by the government, which will carry on the work after the commission has transferred its aid to other fields, and leaves to the local health organization the enforcement of public health laws. The agency supported by the commission can be temporary, and it depends for its success on the voluntary cooperation of the people. Both staffs have made admirable successes, and there seems much promise that a wider application can be given to the plan.

Return for a moment to the Rockefeller Sanitary Commission. Its work, per se, accomplished gratifying results. Many observers state, however, that the by-products have greatly exceeded in importance the tangible results with hookworm disease as published in the records of the state boards of health, and in the reports of the Rockefeller Sanitary Commission. To give an illustration of this: It was found that the available funds for public health work in the eleven Southern States where aid was given amounted in 1910 to $216,195, and in 1914 to $392,364, an increase of 81 per cent. in less than five years. Of course, the commission does not assume the credit for this increase; it was wholly voluntary on the part of the states. It may be, however, that the states were stimulated by the spirit which pervaded the forces devoted to measures for the control of hookworm disease. At any rate, the health departments are much stronger now than they were five years ago.

One incidental service of the Rockefeller Sanitary Commission to the public health agencies of the South and nation has been the bringing into the field of public health work of nearly one hundred carefully selected young physicians. The large majority of them have acquired a love for the work and an appreciation of the broad possibilities it offers for service to man. More than a third of them have chosen it as a career, and have identified themselves with the state or national public health organizations.

The Rockefeller Sanitary Commission accomplished all that was expected by its founder, and paved the way for the International Health Commission. Mr. Rose studied the work in all the states very closely and correlated it by acquainting all the directors with any significant method employed by any one. His suggestions for increasing efficiency came to the state directors from time to time. They were not imperative. They usually carried by their own force. Occasionally he called the workers together for conferences,

when there would be round-table discussions, exchanges of experiences; and usually out of these conferences there developed more effective, more uniform and more systematic working plans.

These fundamental policies which guided the Rockefeller Sanitary Commission are being adhered to in the development of the International Health Commission. They have worked satisfactorily thus far in dealing with a single problem in preventive medicine in the international field. They will probably apply with equal force to other public health problems with which the commission will deal in the course of its development.

Having described the groundwork on which the International Health Commission rests, and outlined the policies which are guiding its organization, I can tell the story of its activities to date in a few words.

In considering this larger work, Mr. Rose in 1911 set to work to collect, from all countries of the world, the available information on the distribution and prevalence of hookworm disease; the extent to which it was a handicap to the health and working efficiency of the people; the agencies at work toward its control; the results secured, and the methods employed. The results of this study were published in 1911. They indicated that the disease prevails in a belt of territory encircling the earth for 30 degrees on either side of the equator, inhabited by more than a thousand million people; that "the infection in some nations rises to nearly 90 per cent. of the entire population"; that the disease has probably been an important factor in retarding the economic, social, intellectual and moral progress of mankind, and that "little or nothing is being done toward its arrest or prevention."

Owing to the time consumed in getting the Rockefeller Foundation chartered, the International Health Commission was not organized until June 27, 1913. The members are: John D. Rockefeller, Jr., chairman; Jerome D. Greene, recording secretary; Wickliffe Rose, director-general, Charles W. Eliot, Simon Flexner, Frederick T. Gates, William C. Gorgas, Charles O. Heydt, David F. Houston, Starr J. Murphy, Walter H. Page and William H. Welch.

In July, 1913, I went to Washington to give assistance in directing the work of the Rockefeller Sanitary Commission and to become later the assistant director-general of the International Health Commission. This relieved Mr. Rose, so that he could make several journeys to foreign countries. He proceeded to London in August on invitation, with a view to establishing work in the British dependencies. The stability of the government and the official use of the English language made them a most suitable field for beginning work. A series of conferences had been arranged for him with groups of scientists, physicians and government officials, the most important, with respect to action taken, being a dinner given by Ambassador Page—himself a member of the commission—August 13. Mr. Rose told, while there, of what had been done in the South, described the plan followed and indicated that the International Health Commission was prepared to cooperate with the British government on a similar basis. The proposition was accepted with eagerness; the government expressed its appreciation, pledged its active cooperation in the work and appointed an advisory committee to assist the commission in the colonies.

The British West Indies appeared to all the logical region for beginning work. Accordingly, Mr. Rose, in October, visited seven of the colonies: Barbados, Trinidad, British Guiana, Grenada, St. Vincent, St. Lucia and Antigua. He desired to make a first-hand survey of conditions. He obtained a general view of the country and established an acquaintance with the officials and the working population. He observed the conditions of infection and discussed working plans with the medical officers. In 1914 he spent about half the year on a journey around the world, visiting a number of countries, giving special consideration to Egypt, Ceylon, the Federated Malay States and the Philippine Islands.

In the meantime, the work of organization had been taking definite shape, and work was getting well under way in some of the colonies. Early in March Dr. J. H. White was secured for a year from the United States Public Health Service to undertake the establishment of work in certain of the Latin-American countries.

Here, as in other places, the commission did not enter the field without first being invited by the government, and receiving assurance of cooperation in the work undertaken. Dr. White had an intimate acquaintance with the Latin-American people, which enabled him to lay the groundwork successfully and develop excellent working forces for Panama, Costa Rica, Nicaragua and Guatemala before the close of his year's work with the commission. These republics will afford nuclei from which operations can spread to the other Latin-American republics as conditions warrant.

In the West Indies, Dr. H. H. Howard is now directing the work. He received his training in the commission's service in the South. On government invitation he aided in organizing the work in British Guiana, which I have already mentioned. Active measures are now in operation or pending for six of the West Indian colonies, and work will be under way within a few weeks in Dutch Guiana. In general, the working plan followed in British Guiana is contemplated in all this field.

The East presents an enormous field for work, which in many respects offers very difficult problems. For this post the commission secured Dr. Victor G. Heiser of the U. S. Public Health Service, who, as director of the Bureau of Public Health in the Philippines during the past twelve years, has dealt successfully with the more or less primitive native population, and developed a highly efficient department of health. He is to give general supervision to the activities previously started in Egypt, and immediate direction to the extension of the work to other countries of the East as conditions favor.

The work of the present year will cost the commission approximately $400,000, which amount is supplied by the Rockefeller Foundation. It is expected that the funds will be increased from year to year with the growth of the commission's work.

I do not know what other fields of activities will be entered by the commission. Measures that now or ultimately may be of international scope would be viewed with greatest interest. You have been told how aid is already given toward the development of public health agencies in several countries. This kind of work will, of course, be continued on one plan or another.

The Director-General has been giving considerable thought to the development of facilities for adequately training workers for the many tasks in the field of preventive medicine. He recognizes also, as very pressing in many countries, the need of facilities for the care of the sick. This field would call for strengthening or establishing medical schools, hospitals and clinics, and the training of natives to operate them. The attack on hookworm disease has led also to the consideration of a similar attack on other diseases, such, for example, as yellow fever or malaria. Entrance into any of these fields, I think, would not be expected except on the basis of careful study and the maturing of definite plans. It might develop that other fields will present themselves which offer more fruitful effort in accord with the paramount aim of the commission, which is to help the countries to help themselves in bringing into activity their own working agencies with their own resources.

61 Broadway.

INJECTION OF ALCOHOLIC SOLUTIONS OF DIFFERENT STRENGTHS INTO PERIPHERAL NERVES

A COMPARISON OF THE RESULTS OBTAINED *

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For the treatment of certain kinds of severe neuralgia, intraneural injections of alcohol have achieved much success. Pain can be relieved; but, unfortunately, in order to do so, other disturbances more or less severe may be substituted.

Alcohol destroys nerve tissue by dissolution, coagulating albuminous material and dissolving lipoids. And the extent of destruction must depend on the completeness of contact and the strength of the solution injected. Whenever the sensory fibers of a mixed nerve are destroyed and pain put an end to, motor fibers must at the same time be destroyed and paralysis created, for unlike some other toxic substances, alcohol does not have a selective action on functionally different nerve fibers. In purely sensory nerves like the trifacial, this is of no importance; but in motor and mixed nerves, the sciatic for example, it is of the greatest moment. Strauss[1] has recorded a case in which the sciatic nerve remained paralyzed for a year after the injection of alcohol.

It can readily be appreciated that if a method of using alcoholic injections could be perfected by which the degree of motor paralysis could be greatly diminished without a corresponding diminution in the amount of sensory loss of function, then an almost perfect method for the relief of severe pain might be attained.

The following experiments were begun by Dr. Eisenbrey, in the laboratory of Dr. Charles H. Frazier, at the suggestion of Dr. William G. Spiller, in order to determine and compare the effects of injections of different strengths of alcohol, and the microscopic specimens were subsequently prepared in the Laboratory of Neuropathology.

Seven dogs were operated on. In each instance under ether anesthesia an incision was made and the sciatic nerve was exposed by blunt dissection without disturbing its fascial relations. The nerve was then injected by means of a small hypodermic syringe with the required solution. The nerve sheath was punctured two, three or four times at points close together. The skin incision was closed by suture. After a certain time had elapsed the animals were killed and the sciatic nerves of both sides were removed for microscopic study and comparison. Muller's fluid was used for preservation. Sections were cut in celloidin and stained by the Weigert, hemalum and fuchsin and Marchi methods.

When 80 per cent. alcohol was used, paralysis was immediate and complete; but with 50 per cent. alcohol, paralysis did not appear to be so severe; 25 per cent. alcohol had little or no effect. In one instance 40 per cent. alcohol seemed to cause more disturbance than did a 50 per cent. solution.

These results were substantiated by the microscopic appearances of the nerves themselves. In every case paralysis was caused by the direct chemical action of alcohol, which invariably resulted in nerve degeneration. With 80 per cent. alcohol degeneration was practically complete, but 25 per cent. alcohol did not cause any definite changes from the normal. With 50 per cent. alcohol, degenerative changes within the nerve were very distinct, but somewhat less pronounced than those caused by 80 per cent. solution.

In no instance did salt solution injected into the sciatic nerve cause any evidence of degeneration, or any clinical signs suggesting paralysis.

The mere technical procedure of inserting the needle did not produce any disturbance, hemorrhage did not occur, and scar tissue did not develop at the site of injection; nor was perineuritis sufficiently marked to be of importance.

In drawing deductions from the facts presented, it would seem proper to conclude that strong alcoholic solutions cause greater destruction of nerve tissue than very weak solutions, and that salt solution may be entirely harmless. The nerve fibers were entirely destroyed by the stronger solutions, yet they appeared in a favorable condition for ultimate regeneration and recovery of function.

In general these results are in harmony with those obtained by May.[2] In his Group 1 the results were rather variable. Thus, in his Cases 11 and 14, the injection produced no obvious effects, but in Case 12 a slight transitory weakness ensued, while in Cases 9, 10, 13, 15 and 16, the disturbances of function were very severe and lasting. However, in Case 11 he used only 50 per cent. alcohol, and in Cases 9 and 14, 90 per cent. was used. May believes that such great contrasts must depend largely on the difficulty of ensuring adequate penetration of the nerve by alcohol. No doubt this is true; nevertheless, stronger solutions are much more destructive than weak ones, provided the technic is adequate.

There is abundant clinical evidence to prove that after destroying the nerve by injecting alcohol, regeneration and restoration of function does occur, provided complications do not interfere.

* From the Laboratory of Neuropathology of the University of Pennsylvania.

1. Strauss: Jour. Nerv. and Ment. Dis., January, 1914, p. 37.

2. May: Brit. Med. Jour., Aug. 31, 1912.

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Schlosser,[3] after having treated 209 cases of neuralgia, expressed the opinion that cures by this method were not permanent, but afforded freedom from pain for about a year. In 123 of his cases, the trifacial nerve was affected, and among these there was an average of ten and a half months' relief from pain.

My experiments do not warrant any conclusions in regard to the length of time required for regeneration; all that can be said is that the nerves appeared to be in a favorable state.

When a nerve has been severed and reunited, a number of months may be required for restoration of function; indeed, many such cases are recorded in which the conditions appeared to be favorable, yet more than a year elapsed before recovery took place; but it would seem probable that nerves destroyed by alcohol should regenerate at least as quickly as when severed by some other means; in fact, they might regenerate more rapidly because their sheaths would not have been disturbed, and the likelihood of scar tissue developing would be diminished. In most of Schlosser's cases, recovery of function seems to have required about ten and one half months.

In Greeman's[4] experiments on rats, he found that when the sciatic nerve was cut, so much scar tissue formed that regeneration was interfered with; therefore he destroyed the nerve by crushing, by this means preserving the nerve sheath, which served to exclude fibrous tissue, and regeneration was not interfered with. It is not improbable that in some instances the mere mechanical interference of inserting a needle might lead to scar tissue formation or hemorrhage. This might account for the permanent paralysis which occurred in a case mentioned by Bassoe.[5] In so large a nerve as the sciatic there are blood vessels of considerable size relatively, and if injured, hemorrhage might occur sufficient to cause paralysis. In such a case surgical interference should be considered, for if sufficient time for regeneration had already elapsed, there must still be some local disturbance, which might be successfully removed if the sheath of the nerve trunk could be opened.

Facial spasm can be stopped by injection of the stronger solution of alcohol, but of course paralysis must be substituted. It would seem that in such cases repeated injections should be tried, first beginning with 25 per cent. alcohol and then gradually increasing the strength; by this means spasm might be relieved and the paralysis which is substituted would be made less severe and of shorter duration.

3. Schlosser: Quoted by Hecht, D'Orsay: The Methods and Technic of the Deep Alcohol Injections for Trifacial Neuralgia, THE JOURNAL A. M. A., Nov. 9, 1907, p. 1574.
4. Greeman: Jour. Comp. Neurol., 1913, xxiii, 479.
5. Bassoe: Jour. Nerv. and Mental Dis., January, 1910, p. 38.

The Industrial Proletariat.—A century and a half of the new economic system of production has passed and has inevitably brought about profound changes in the industrial and political development of the civilized world. During this period, giant strides have been made in industrial expansion, and wonderful discoveries in the domain of the physical sciences. Invention has been followed by invention, and greater economic progress made within this comparatively short period than during the whole history of mankind. Methods of production have been completely revolutionized and industrial control concentrated in the hands of a special class; while a large portion of the population has been converted into a great standing army of a new class—that of the industrial proletariat.—Price, the *Modern Factory*.

RELATION OF THE GENUS "MONILIA" TO CERTAIN FERMENTATIVE CONDITIONS OF THE INTESTINAL TRACT IN PORTO RICO*

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Throughout the last six years I have had an opportunity to observe more closely the large number of indefinite symptoms which make up what has been variously termed by us neurasthenia, anemia, chronic gastritis, gastro-intestinal catarrh, fermentation in the intestinal tract, fermentative dyspepsia, chronic gastro-enteritis of the tropics, *descomposiciones del intestino*, culminating in such diagnoses as gastro-enteritis tropical, phthisis intestinal, and sprue.

Fully one-half of my own personal experience has been with those who suffer from what our patients are pleased to denominate "the stomach," meaning, nine times out of ten, the intestinal tract. The complaint usually is that they cannot eat without bloating; that, from time to time, they have "decomposition of the bowels"; that they are getting pale and losing strength in spite of what they eat—all trying to overfeed in the hope of strengthening themselves. To this add the very large number who have, in addition, vague pains in the "kidneys" and the rest of the body, who become breathless on the slightest exertion, and who are extremely nervous. It has been entirely impossible for me to deny the self-evident fact that from the rank of these people come the majority of our cases of true sprue, as so described, with its four cardinal symptoms—sore and beefy tongue, a gaseous bowel, a foamy, light-colored, abundant diarrhea, and a small liver. It has been entirely impossible for me to dismiss the suspicion that sprue, as we know it, is usually only the terminal phase of that which we have so frequently seen in our offices, and which we have contented ourselves heretofore in calling "fermentative dyspepsia," or any other descriptive term which seemed scientific and medical.

The strife which has taken place to determine the cause of that most fatal disease, still known by its Dutch name of sprue, has led men all over the world to variously consider it here a condition, there a disease; here due to a protozoon, and there to a fungus. Of late this strife has become acute and some men are boldly asserting that no one has proved even that sprue is a disease.

Several years ago I had about concluded that sprue was a disease and that it might be due to some parasite carried in certain fruits, particularly the pineapple. That was because a good many of my patients at that time, representing my worst cases, came from fruit-bearing districts. Then, unable to find anything definite in the pineapple theory, I began to believe that sprue was a disease like beriberi, considered to be an intoxication; but after taking careful histories, my suspicions rested more and more on the yeasts. With this strong suspicion in my mind, I received one day from Mr. John M. Turner of San Juan, a pupil of Doremus, and a man who is very practical

* Read before the Medical Society of the District of the North of the Porto Rico Medical Association, March 18, 1915, by the author as president of a board for the study of tropical diseases as they exist in Porto Rico, and collaborating with the Institute of Tropical Medicine and Hygiene of Porto Rico.

in his judgment of the value of flour and yeasts, a letter in which he said that he believed that something was the matter with the yeast here, and he connected it in some way with sprue. Later on I was attracted to examine the tongue of a child 12 years of age, suffering from what appeared to be thrush. On culture, however, the organism did not ring true to what I had read of *Oidium albicans,* and from that time I have steadily devoted myself to the study of mycology as it applies to sprue. To Chalmers and Castellani is due the credit of furnishing a means by which we can distinguish between the various species of "Monilia," understanding that Monilia is a yeast-like body producing mycelial threads in its vegetative state in contradistinction to its congener, with which it has heretofore been confounded, saccharomyces, which reproduces in its vegetative condition by ascospores.

Up to the present, since October, 1914, I have made cultures in Sabouraud's glucose agar, 4 per cent., plus 2, from 100 tongues. I consider this medium as specific for Monilia as Loeffler's blood serum mixture is for *Bacillus diphtheriae.*

Twenty-two of these cultures were from cases of typical complete sprue, with actively inflamed tongues and with frothy diarrhea at the time of examination, and all were positive for Monilia at the first examination. Three of these patients have since died. This gives a percentage of 100 harboring Monilia in this group.

Forty-seven either had been cases of sprue under my care or had histories, present or past, which were more or less suggestive of it. All save 7 of these had normal tongues at the time cultures were made. Of these 47 cases, 10 gave positive cultures for Monilia, 7 causing, if we accept moniliasis as the new term for sprue, the intestinal, and 3 the tongue type. Of the 7 which had inflamed tongues in this group, 3 were clearly cases of tongue sprue. The 4 negative were as follows:

A baby, aged 4 months, with simple stomatitis of brief duration (four days).

A teething, rachitic child of 18 months, with a severe enterocolitis.

An old man with chronic enterocolitis.

A young man, father of one of the three patients with tongue sprue positive for Monilia, one of this series of 47.

(Only one tube was inoculated, and with another effort the parasite might have been demonstrated.)

The percentage of cases positive for moniliasis of the tongue was 21.

Thirty-one persons were examined who did not have sprue. Twenty-six had no suspicion of sprue, past or present, and had normal tongues. Only one of this class was positive for Monilia. This case was one of a pale man who at first gave no past history of fermentation disturbance of his bowel, but who later recounted a history most suspicious of sprue of the intestinal type. His wife had active, complete sprue, and belongs to the first group.

Of the 47 cases suspected of sprue, the feces of 4 negative by the tongue were examined and 3 found positive. The remaining 33 are still to be investigated in this sense. Three of the 47 cases suspected of intestinal sprue on cultures from their feces were positive.

In all, the feces of 10 of the 100, and one other, were plated and only the 3 above noted, and one of Series 1 already positive for his tongue lesion, were positive. Three of the remainder were cases of pellagra. The other 3 were from healthy persons.

RESULTS OF TREATMENT

Treatment consists usually in the administration of food in which Monilia does not flourish, and which it cannot ferment. There are three types of diet:

1. A strict milk diet, giving 8 ounces every two hours on nine occasions a day for four days, and thereafter increasing the dose by one ounce every four days until 13 ounces every two hours have been taken for one week. The milk should be taken cold through a straw, slowly, and half a culture tube of the liquid culture of the Bulgarian strain of the *Bacillus acidus lacticus* should be added to each feeding, for the purpose of overgrowing bacterial sources of fermentation. On reaching a dose of 13 ounces of milk, one banana a day should be added, and every four days one more for every ounce of milk to be subtracted per feeding. When 10 ounces of milk every two hours and three bananas a day are reached, the diet may be modified by gradually permitting eggs, fruits and fresh vegetables with a low carbohydrate content. After a few days on this diet the excess of gas usually diminishes; indeed, generally disappears.

2. A strict meat diet, giving 2 pounds of chopped and roasted meat per day, divided into six feedings three hours apart. Few can sustain this diet over a week, but almost without exception it stops the diarrhea. (Carnegie Brown.)

After this week add vegetables, fruits and eggs as above, and reduce meat.

3. A simple fruit diet in which bananas may form the principal feature.

Of this series of sixty-nine cases of sprue and fermentation conditions of the bowel or simple stomatitis, 12 were cured, 32 have improved, as a rule greatly, with gain in weight and color, 19 are still not sufficiently changed to warrant deductions, 2 have become worse, 4 have died.

I regret to state that continued experience with santonin and emetin has long since caused me to abandon their use because of their inefficacy.

The organism is a typical Monilia. Its biologic characteristics are that it ferments glucose, levulose and maltose; that it causes an acid reaction in these three, and in saccharose and galactose; that it does not liquefy gelatin or serum; does not coagulate or render milk acid, but on the contrary, renders it alkaline; and that all other sugar mediums lose rapidly in acidity. In pure culture, five drops of it were injected into the muscles of the tongue of a large Belgian hare, causing its death in seventy-five hours thereafter, with enormous production of intestinal gas and diarrhea, but without sore tongue, the identical organism being recovered in pure culture a few hours after death directly from practically all of the organs of the hare's body.

The same organism—which, by the way, was one isolated from the tongue of one of our most beloved officials of the American government here, and which not long since caused his death—was fed in pure culture to a one-thousand gram guinea-pig, causing, I suspect, its death three weeks thereafter. Cultures from the organs of the body, save tongue and stomach, however, were very disappointing, and the histopathologic picture in its intestines and stomach has not yet been worked out for lack of time. This

animal also suffered from gas and diarrhea. Cultures of this organism with malted milk were fed during a time to a monkey. This monkey is still alive, but, although the feeding experiments have been stopped now about three weeks and the animal is being fed good rations, it having previously been fed on malted milk mixed with the culture, it is rapidly declining in health, becoming thin and sick, with occasional sharp diarrhea. The last word must yet be said on this animal.

To sum up, animal experimentation seems to bear out in a general way that we are dealing with a pathogen of low virulence and that we cannot expect to obtain any sensational sudden deaths from acute sprue due to feeding experiments, if, indeed, we shall be able to satisfy the scientific world that Monilia has been the determining factor in the death of any animal fed by its cultures.

What I particularly want to bring out is the suggestive evidence presented by the examination of what now is a considerable number of tongues, of cases of sprue and those not sprue.

Bahr's conclusion that *Monilia albicans* is the cause of sprue in Ceylon requires some comment in this paper. With his reasons for and against considering sprue to be a moniliasis of the digestive tube, and his conclusions therefrom, you are now familiar. The conclusions drawn are the result of an interesting study of sprue in Ceylon for two years by a most distinguished group of English workers, and cannot be lightly criticised. Nor are we authorized to question their findings. But the work here demonstrates that the Monilia of sprue in Porto Rico is *not Monilia albicans*, but an organism which has not heretofore been described. For the rest, Bahr's reasons for considering sprue to be a moniliasis of the intestinal tract are remarkably strengthened by the work here. Bahr states that he has found Monilia in 57 per cent. of sprue tongues and 17 per cent. of normal tongues. I have found them in 100 per cent. of sprue tongues and 3 per cent. of normal tongues. If you care to add my seven cases of intestinal sprue with normal tongue, the percentage would be raised to 11, but this is not fair, as it would deny that the seven were intestinal sprue.

I have not yet found *Monilia albicans* in Porto Rico, nor does any one seem to have described my species in temperate climates. Hence, Low's chief criticism of Bahr's work, in which he practically denominates it a failure to prove the cause of sprue, certainly does not obtain here. This distinguished worker objects that a Monilia common in England without sprue could cause sprue in Ceylon. It is well answered by Bahr, who notes that regional influences may greatly affect identical organisms and make of pathogens of almost no virulence, very dangerous parasites. As to Low's objection that the geographical distribution of sprue is in favor of his and Castellani's protozoa theory, let me say that we do not at all know the distribution of sprue, even clinically, because little has been written of it and a diagnosis is often difficult.

May not some of the pellagra of our Southern states be in reality sprue? It would be interesting to study some of the cases without skin lesions in which the diagnosis is pending between these two diseases. I have had so far three cases with stomatitis and white diarrhea which I considered sprue without moniliasis of the tongue, but which later cleared up by the appearance of the pellagrous eruption.

While fully aware that it will be some time—perhaps many years—before the sum total of circumstantial evidence will point to Monilia as the unmistakable cause of sprue, I wish to state my belief that sprue is moniliasis of the digestive canal, and that in Porto Rico, at least, it is due, so far as I have yet gone, to the species which I have recently described in the course of work in the Institute of Tropical Medicine and Hygiene in Porto Rico.[1]

I have found other monilias in the stool, which are still under study, but the examination of tongues seems to point overwhelmingly to sprue tongue as being caused by the Monilia I have described, and from a sprue tongue to intestinal sprue is only a matter of extension. It is difficult to conceive how a protozoon could be affected by the treatment which has been found to be the sine qua non for the cure of sprue, namely, the withholding of those articles of food which in my cultures of Monilia are proved to favor its growth and cause fermentation and acidity. In fact, apart from the remarkable consistency of my Monilia in sprue tongues, and its usual absence in uninflamed tongues, to me the therapeutic test is the most striking, for any one can take a case of sprue and, almost without exception, after an appropriate diet of milk, meat or fresh fruits, or a combination, can dismiss inflammation of the tongue, gaseous distention of the bowel, diarrhea, and even, if you please, much, if not all, of the cachexia. Is it not more than a coincidence that the withholding of carbohydrates is enough to cause an immediate betterment, for the time being at least, and generally, a temporary "cure" of sprue, which perhaps may be permanent? The very fact that some cases are permanently cured by these diets alone, without any medicine whatsoever, makes me extremely suspicious of the asseveration of Chalmers and Castellani that sprue is not likely to be a "mycosis," but is probably a protozoal disease.

In conclusion, I wish to call attention to the fact that I am now engaged in studying cultures from the excrement of persons affected with fermentative conditions of the intestinal canal in Porto Rico, and am finding with great regularity monilias which seem to correspond, in the few mediums I have sown, with those I am finding in true sprue, not forgetting that it is more than possible that in this dangerous genus Monilia there must be more than one pathogen for the intestinal canal. One must ever keep in mind that the clinical signs and symptoms of sprue depend largely on the portion of the intestinal tract affected, an observation well brought out by Bahr. Thus, tongue sprue is called *Sapito*, or thrush, here. It is common among children, and often is followed by a picture impossible to avoid denominating sprue. But many such cases promptly get well, and an incredulous smile is the only reward for suggesting that such cases of "thrush," frequently of long duration, but strictly limited to the tongue, are really local sprue. I have a little patient who for six months suffered from tongue sprue alone, positive for Monilia, and utterly rebellious to all treatment so far employed, but some months previous to his tongue symptoms he had a three months' bout of white, frothy, abundant diarrhea without mouth symptoms. I have another such case of short standing, in a patient who was taken suddenly ill with fever of 40 C. and a fiery red and desquamated tongue. She was

1. Ashford, B. K.: A Monilia Found in Certain Cases of Sprue, THE JOURNAL A. M. A., March 6, 1915, p. 810.

a young school teacher and gave a history of occasional gaseous disturbance of the bowels with frothy movements. No diarrhea, however, accompanied her tongue sprue. In fact, this oscillation from simple tongue sprue to intestinal sprue and back again is typical of sprue. Whether there is more than one species of Monilia that causes sprue remains to be seen, but the matter is one of vital importance, and every effort should be made to assist the Institute of Tropical Medicine in investigating all cases in which the diagnosis of sprue has or should be made, to determine the presence or absence of monilias.

I cannot close this paper without requesting that some systematic effort to examine the bread in this island for the presence of Monilia be made. I have found living Monilia in the center of a cooked loaf of bread, underbaked, of course. With my colleagues of the Institute, we examined 10,140 country people in the mountains of Porto Rico last year for clinical evidences of sprue and were only able to obtain nineteen cases, some of which were even doubtful, while in San Juan I have seen over 300 cases in six years, and I know you all have had many cases. When we consider this and think also that country people in Porto Rico, such as live in the mountains and in distant barrios—such, in short, as form our clinics in the mountains—rarely eat bread, and that out of the nineteen cases eleven were from the town of Utuado, there is another reason why we should fear Monilia infections of bread—if not fear, at least investigate—for the matter is becoming actually vital to the life and health of many people who are willing and able to spend the money to keep in good health.

INDICATIONS FOR OPERATIVE INTERFERENCE IN GOITER

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If, in the present state of our knowledge of the clinical manifestations of goiter, we undertake to operate on others than those that are unquestionably causing immediately grave, evidently correlated detriment, a very nice discrimination must be exercised. In young people it is probable that most of the enlargements are more or less physiologic, an effort to meet an increased demand; here if any treatment is indicated it certainly should not be of a destructive kind.

The real or fancied presence of a goiter is rather common. Even more common are individuals who are out in their functional adjustment; the neurasthenic, the highly strung person suffering from mental or physical overstrain, the early phthisic, or the patient suffering from any one of a number of chronic intoxications; many of these give a picture that may more or less closely resemble thyroid intoxication or irritation, and these individuals may have a coincident goiter. If, on the other hand, we are content to deal surgically only with those that are unquestionably responsible for imminently dangerous conditions, then we shall miss the most opportune time for effectively treating many that are causing real, progressive damage, the seriousness of which will later have become much more evident; as a general rule, the more evident the damage the more danger in the operation and the less satisfactory will be the result. The real degeneration caused by goiter can only be checked, not repaired, by the removal of the goiter.

For practical purposes, goiters may be considered to do damage in one or both of two ways, by mechanical pressure or by intoxication. In using the term "intoxication" I know I am somewhat begging a question, but I use it as a matter of convenience to avoid prolix discussion. Either the pressure or the intoxication may be very acute, or it may be very insidious but none the less detrimental in the end.

Goiters that seem to poison the patient have been grouped together under the terms of "toxic" or "exophthalmic" goiters, while goiters that do not produce toxic symptoms have, regardless of their histology, been classed as simple goiters. Kocher has pointed out that not all toxic goiters are of the same nature. H. S. Plummer,[1] seconded by Wilson's[2] histopathologic studies based on clinical and histologic analysis of a large series of operated goiters, have subdivided the toxic goiters into true exophthalmic and toxic simple goiters; the former show mental stimulation and sympathetic phenomena and histologically show true hyperplasia in some part of the gland, while 50 per cent. of them will show exophthalmos. According to their statistics the toxic, simple goiters never develop exophthalmos, and differ in other respects clinically from the true exophthalmic goiters and do not show hyperplasia. Since they have published these studies, we have been able to foretell whether the histologic examination will show the presence or absence of hyperplasia with sufficient constancy to lead me to accept this subdivision as a definite step forward in the unraveling of goiter pathology.

In dealing with them clinically, we divide goiters into five groups:

1. True exophthalmic goiters.
2. Toxic, simple goiters.
3. Nontoxic, simple goiters that are not causing demonstrable damage and are apparently not liable to.
4. Simple goiters that from their size, location or growth tendencies are liable to cause obstruction or might be malignant, and those that are actually causing obstruction.
5. Inflamed goiters.

To these five groups might be added a sixth, malignant goiters, were it not so very difficult to distinguish them clinically, while they are still operable, from simple nodular goiters in which operation is definitely indicated on account of some peculiar growth characteristic.

Kocher long ago came out flat footed with the contention that excision of one half of the thyroid was the proper treatment for an exophthalmic goiter, and advanced medical thought has slowly swung around to accepting, tentatively, the correctness of this principle. There are those who treat certain exophthalmic goiters medically and successfully, as they treat certain cases of appendicitis in the same way; but this does not gainsay the propriety of the operative plan of treatment.

The premise on which exophthalmic goiters are subjected to operation is that in some way the goiter mass is related to the clinical symptoms and that reduction in the amount of the mass will reduce the intensity

1. Plummer, H. S.: Am. Jour. Med. Sc., 1913, cxlvi, 790.
2. Wilson, L. B.: Am. Jour. Med. Sc., 1914, cxlvii, 344; Relation of the Pathology and the Clinical Symptoms of Simple and Exophthalmic Goiter, THE JOURNAL A. M. A., Jan. 10, 1914, p. 111; Journal-Lancet, Feb. 15, 1914.

of the symptoms. This does not mean that the intensity of the symptoms bears a direct relation to the size of the goiter, for a large goiter in one individual may be much less toxic than a small one in another person, and the toxicity or the susceptibility of the individual may vary from time to time without material change in the size of the gland. What I do mean is, if in a given exophthalmic or even in a simple, toxic goiter at a given time a certain amount of the gland is removed or put out of commission, there will be a proportionate reduction of the toxicity. For reasons to be given later, the clinical evidence of this reduction of toxicity is not always perfectly plain.

Along with our ability to reduce the intoxication by the removal of part of the goiter, we should not lose sight of the other equally important clinical fact that the toxic stage of an exophthalmic goiter has a distinct tendency to crisis and self limitation. If this is so, why operate on them? For the same clinical reason that we will operate on a diseased appendix; to reduce the direct death rate which under any treatment is not very large in either of these diseases, and also, which is more important, to reduce the period of chronic disability and to prevent the permanent damage which may result when the disease is not completely cured. That the general results of operating for exophthalmic goiter are not so brilliant or so evident as those for appendicitis may be due wholly or partially to one of the following three causes:

First, a certain percentage of cases have been operated on a mistaken diagnosis and never were cases of goiter intoxication.

Second, a case presenting goiter, exophthalmos, tremor, rapid heart and nervous derangement is not necessarily a case of present goiter intoxication; these may all be evidences, more or less, of permanent damage in a goiter that has run its toxic course, and has ceased to be active. It is reasonable to suppose that in such a case no amount of thyroid reduction will repair the damage. An old Pennsylvania mountain practitioner once designated them as "burnt out goiters," and whenever I observe one of them, I am reimpressed with the aptitude of the simile.

Third, a common cause of only partial success is the removal of an insufficient amount of goiter tissue, and yet in the very case that is apparently so disappointing, you may have accomplished your chief object, namely, the saving of the patient's life. This point has been aptly illustrated by comparing a goiter toxemia to alcoholic intoxication. We will grant that in two certain individuals a quart of whisky would be lethal, and that a pint would not be. Then if those individuals were to swallow a quart of whisky each, and one of them vomited half of his dose, for a time both might be apparently equally drunk, but in the end one would recover and the other would die.

This point, ingeniously expounded by Plummer, is illustrated in the following hypothesis: Suppose if in a certain case of exophthalmic goiter it were left unoperated, a fatal crisis would have occurred in the ninth month of the disease, yet in the fourth month the patient shows only a moderate amount of intoxication. If in the fourth month half of the thyroid is removed, it is perfectly conceivable that the intoxication may be greater at the ninth month, the height of the crisis, than it was at the time of operation, and still this patient's life may have been saved by operation.

Halstead[3] reported thirty-nine cases with successful results, in which the greater part of both lobes of the thyroid were removed at two or more operations, in patients who had not been cured by the excision of a single lobe, and in some of them three arteries had been tied. My own experience with secondary excisions has been equally satisfactory, but I now try to avoid them, whenever practicable, by excision of one and one-half lobes at the first operation. Much is supposed to depend on the postoperative care which the patient receives, and in practice this phase should never be neglected; but I feel rather satisfied that if sufficient gland has been removed, the postoperative care will be of less importance.

The most valid objection that can be raised against radical operation for exophthalmic goiter is that the operative mortality which is almost inseparable from operations in these patients in inexperienced hands, which is the early part of any series, unless the operator has been fortunate in his training, is apt to be most discouraging. Most exophthalmic goiter cases come to, or are referred to, the surgeon in or near the height of a crisis, and at this period a radical operation is only too apt to be fatal. However, these patients can usually be nursed along and the crisis bridged over by rest, the use of galvanic current, and one or more ligations, to a stage when the operation can be performed with sufficient safety to be good surgery. Some patients will die after a single ligation, but these deaths are to be charged to the disease, and not to the surgery. Plummer has told me that he has seen more people die of exophthalmic goiter within the first three days after their arrival at Rochester, than have died there postoperatively from goiter excisions. In doubtful cases, preliminary ligations give a very good index to the patient's ability to withstand the radical operation.

The thymus gland is apparently always enlarged in exophthalmic goiter. For a long time, especially in Germany and France, numerous men have contended that in a certain proportion of cases the thymus, and not the thyroid, is the chief factor, and some partial thymectomies have to be done. There has not been sufficient clinical experience to prove or disprove this contention, but rather a definite picture has been described as belonging to thymic cases. Lately Halstead[4] has come out in support of this view. In the hope of obtaining more light on this particular phase of the subject, in relation to certain of our own cases, I recently made a visit to Rochester, Minn., to learn the views at the Mayo Clinic. Plummer said that he had not seen sufficient evidence to warrant the distinction. Judd, after talking to some French visitors, said that he had been tempted to resect the thymus in a certain few cases but had not done so. As far as I know, Kocher has not conceded a major rôle to the thymus in exophthalmic goiter, but has regarded excessive enlargement of the thyroid with glycosuria and nephritis as an advanced and inoperable stage of the disease. I believe that at present this phase must be regarded as an open question. Of my own patients, referred to above, who in some way resembled the pictures described by those who believe the thymus to be a possible major factor, two had thyroidectomies done last summer, and one a double ligation. The late reports from these thyroidectomies would indicate that,

3. Halstead: Excision of Both Lobes of the Thyroid Gland for Graves' Disease, Ann. Surg., 1913, lviii, 178.
4. Halstead: Bull. Johns Hopkins Hosp., August, 1914.

for the present at least, they are in need of no further surgery. The ligation case is now ready for a thyroidectomy.

Toxic simple goiters are to be treated by excision or enucleation of the more evidently diseased part of the gland. In these, there is apparently no danger of postoperative hyperthyroidism, but these patients may die postoperatively on account of the advanced degenerative changes that have developed during the period of intoxication. Results of radical operation in these cases are usually excellent, but often great care must be exercised in the diagnosis. That a patient has a goiter is not in itself sufficient reason for assigning accompanying nervous or cardiac symptoms to the goiter as a cause.

Whether or not we accept the hypothetic distinction between exophthalmic and simple goiters cited above, it has no real bearing on the question of the operative treatment of toxic or exophthalmic goiters as a class; but I believe it does give the surgeon some further guidance in the prognosis and in the selection of a particular mode of procedure in a particular case.

Of the nontoxic simple goiters, probably only the ordinary adolescent and certain nondegenerating colloid goiters are amenable to medical treatment; but unless one took the extreme view that because a certain proportion of simple goiters will later show toxicity or cause obstruction, or become malignant, all should therefore be removed; this does not mean that all simple ones require surgical treatment. A very few during adolescence will require operation; a few of them will be of the exophthalmic type, and even here conservative operation may suffice. There is no evidence to show that adolescent, simple goiters are in any way related to the simple ones of later life; and until such evidence is forthcoming they will not be operated on except in special individual cases. Occasionally they are resected on account of their size, but this is a rare occurrence, though Kocher states that goiters of pronounced irregular growth should be removed regardless of age. Many adults carry simple goiters through life without inconvenience or symptoms. Simple goiters causing no symptoms may demand removal on account of their size. The ease with which a single nodule or cyst can be enucleated may decide the removal of those of but moderate size. Goiters causing pressure symptoms, including those interfering with the recurrent nerve, rapidly growing goiters, those situated in the chest or behind the pharynx or trachea, tender goiters and those causing spontaneous pain should receive surgical treatment, which usually consists in the removal of the more evidently diseased part of the gland with the preservation of sufficient functioning tissue. As a general rule, nodular goiters are more apt to require thyroidectomy enucleation or resection than the smooth homogenous ones.

Simple thyroiditis is seldom, but suppurative thyroiditis and acute and chronic strumitis are usually helped by proper operation. This may consist in simple drainage, excision of a lobe or enucleation of a calcified nodule or suppurating cyst.

Malignant goiters, if movable, should be removed; but the diagnosis of malignancy in operable goiters is usually made after their removal.

Before undertaking any goiter operation, it should be determined that the general condition warrants the surgical risk. Even in simple goiters of long standing, this may require nice discrimination on account of the extent of the secondary degeneration present in vital organs.

Judd has made some interesting observations in regard to goiter in pregnancy. If exophthalmic goiter develops during pregnancy, either death in crisis or spontaneous recovery is apt to occur toward the end of the pregnancy. Patients operated on during pregnancy, other than by simple ligations, are apt to miscarry a month after operation, and to be extremely ill or die. This has happened when it was not known that the patient was pregnant at the time of operation.

In the presence of real hyperthyroidism, none but absolutely necessary excisions for relief of pressure are indicated.

SUMMARY

Toxic simple goiters and exophthalmic goiters that are still active are entitled to some sort of operation that tends to lessen the bulk or activity of the gland.

Adolescent goiters, with rare exceptions require no operation.

Simple goiters are to be dealt with according to the indications of the individual case.

Pregnancy greatly increases the risk of radical goiter surgery.

Metropolitan Building.

THE PRESENT STATUS OF THE ABDERHALDEN TEST *

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Much has been written in the last two years on the Abderhalden test. The workers in this field may be divided into three groups:

1. Those who support Abderhalden's contentions entirely and believe that a diagnosis of pregnancy, carcinoma and various other conditions can be absolutely made by exposing the serum from a case to the specific substrate against which these ferments are mobilized by the body.

2. Those who believe that the method is of no possible value in diagnosing pregnancy or any other condition.

3. Those who believe that, while the ferment content of the blood is undoubtedly increased in pregnancy and various other conditions, the specificity of the ferments as maintained by Abderhalden and his supporters is not proved as yet; and in the light of the most recent work is highly improbable.

To the individual not engaged in the work, the many papers appearing, some of which contain contradictory statements, must be very confusing. It is in the hope of clearing up some of this confusion by a statement of what has been found recently by other authors as well as by the writer, that this paper is offered.

In the first place, Abderhalden's present position must be of paramount importance. Since the first descriptions of his technic appeared, various slight modifications have been advised by him. For example, he advises a longer period (from twenty to twenty-four hours) for dialyzation.[1] Why, may we ask, if, as

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1. Abderhalden, E.: München. med. Wchnschr., 1914, lxi, No. 8.

he states, he has never obtained an incorrect result with the shorter dialyzation period, does he advocate this change? Furthermore, why is the limit of dialysis put at twenty-four hours? If the ferments are strictly specific, no digestion would occur in the longer dialysis period. The obvious answer to these queries is that he failed to obtain positive reactions in true cases of pregnancy when dialyzing only sixteen hours; and he obtained positive reactions in cases not pregnant when dialyzing more than twenty-four hours. These results are exactly in accord with my own, and with those of others. However, this point is not set forth in Abderhalden's writings or in those of his associates. Moreover, Abderhalden arbitrarily insists that a reaction which contradicts the clinical findings must be due to error in technic and that one must find such error to explain the apparent discrepancy. This is practically an admission that the reaction is not infallible, and that search for the cause of the failure must often be made after the clinical diagnosis is apparent in a given case.

From the workers in this field in this country whose papers appeared in the early months of last year, and who then enthusiastically endorsed Abderhalden's assertions, we have heard very little in the later months. I have determined by personal communication in some instances that their early results were not borne out by their later experiences, and that in several cases the test has been given up entirely because of its unreliability.

The men who are still supporting Abderhalden's assertions as to the absolute specificity of the ferments and reliability of the test are either relatively new workers in this field of serology, or men connected with a commercial laboratory.

Of the second group of men, those who deny that the test has any value, that there is nothing to show that the ferments are increased in pregnancy and other conditions, little need be said. They demonstrate by their statements that either they have not done enough work with the test to know whereof they speak, or that their technic was so poor that they could not obtain results with any test requiring a knowledge of serology.

The third group of men believe that the ferments are increased in these various conditions; that there is no proof that these ferments are specific, and that the Abderhalden test may be of value as an aid to diagnosis in a given case, but that it is not by any means infallible. Most of these men, including myself, consider that a negative reaction in a doubtful case is of more value in ruling out pregnancy than a positive reaction would be in affirming it. This view was put forward by Echols[2] and by the writer[3] at the 1914 session of the American Medical Association, and at that time aroused considerable adverse comment because it was opposed to the experience of most of the workers in the field at that time, and was not in accord with the teaching of Abderhalden.

Since that time, however, much work has been done on the typical Abderhalden test, and on a modification which tests for the antitryptic value of the serum in the various conditions, including pregnancy. In this country Jobling and Petersen[4] have led the work, and have shown that the antitryptic power of the blood serum is increased in some of the conditions in which I have demonstrated the increase of the tryptic power of the blood serum.

In collaboration with Eggstein,[4] they have produced evidence which, if substantiated, will destroy some of the underlying principles of the Abderhalden theory. They believe that the placental tissue has an affinity for, and absorbs the antitryptic substances present in the serum, and that the tryptic ferments are then free to digest the serum proteins. This view had been previously worked out by Adachi in Berlin,[5] and he has advocated the use of the Rosenthal modification of the Fuld-Gross method of antitrypsin determination instead of the Abderhalden test as a diagnostic aid in pregnancy. Among other men who have arrived at substantially the same conclusions, are Bronfenbrenner,[6] De Waele,[7] Kjaergaard,[8] Oller and Stephan,[9] Plaut[10] and others.

Concerning the present status of this question, the following conclusions seem justified:

1. The Abderhalden test is not a specific and infallible test for the diagnosis of pregnancy, carcinoma or any other condition.

2. A negative reaction in a given case is of great value as speaking against the possibility of pregnancy.

3. A positive reaction must be interpreted as only speaking for the diagnosis of pregnancy, and that only in the absence of a large number of pathologic conditions, to some of which I have already called attention.

4. The ferments are increased in the blood during pregnancy. As yet, however, no way has been devised of differentiating between these ferments and the ferments mobilized in many pathologic conditions.

5. The test should be done in all cases in which the diagnosis of pregnancy is in doubt, with a full knowledge of its limitations and possible error. It should be regarded as corroborative evidence together with other clinical phenomena.

These conclusions are in accord with what any one familiar with biologic reactions would expect. There is no known serum test or reaction at the present time that is absolutely reliable for diagnostic purposes. The Wassermann reaction cannot be relied on in all cases, and the same can be said of the various complement fixation and precipitin tests. Nobody doubts at the present day the value of the Widal reaction in typhoid fever, and yet no clinician would care to base a diagnosis of typhoid on that alone, and insist that he could not be wrong.

The subject should be approached from a broad point of view, and the Abderhalden test must be given its place along with other biologic reactions. Its value as a diagnostic measure must be decided by the slow accumulation of facts, by careful workers in scientific laboratories; and its right to endure must depend on their verdict.

2. Echols, Chester: Limitations of the Dialysis Method as a Practical Test for Pregnancy, THE JOURNAL A. M. A., Aug. 1, 1914, p. 370.
3. Falls, F. H.: A Study of the Ferment Activity of the Blood-Serum During Pregnancy and Under Normal and Pathologic Conditions, THE JOURNAL A. M. A., Oct. 3, 1914, p. 1172.
4. Jobling, Eggstein and Petersen: Jour. Exper. Med., 1915, xxi, No. 3, p. 227.
5. Adachi: Ztschr. f. Geburtsh. u. Gynäk., lxxvi, 516.
6. Bronfenbrenner: Jour. Exper. Med., xxi, No. 3, p. 227.
7. Waele, H. De: Ztschr. f. Immunitätsforsch. u. exper. Therap., xxii, 171.
8. Kjaergaard: Ztschr. f. Immunitätsforsch. u. exper. Therap., xxii, 31.
9. Oller and Stephan: München. med. Wchnschr., 1914, lxi, Nos. 1 and 2.
10. Plaut: München. med. Wchnschr., 1914, lxi, No. 5.

Concerning the confusion that may arise regarding the work done on the antitryptic power of the blood serum in various conditions, I should like to point out that the antitryptic power of the blood is raised in the same conditions as the tryptic power. While for theoretical purposes it is very important to understand that the placenta is not digested by the ferments in the Abderhalden test, but merely adsorbs the antitrypsin, and leaves the trypsin free to digest the serum proteins, practically this method is a test of the tryptic activity of a given serum after the adsorption of the antiferments, which have been mobilized in all probability in response to the increased tryptic content of the blood.

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THE FEEDING OF BILE COLLECTED FROM BILIARY FISTULAS IN OBSTRUCTION OF THE COMMON DUCT

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In 1912, Schmilinsky[1] reported a case in which a biliary fistula developed after resection of the stomach for ulcer followed by gastro-enterostomy. From 800 to 1,000 c.c. of bile were discharged per day. The stools were acholic. The patient was losing strength so rapidly that it became apparent he could live but a few days longer. Schmilinsky met this crisis by collecting all the bile escaping from the fistula and introducing it into the stomach through a stomach tube twice a day (about 400 c.c. each time). The treatment was kept up for two months. The patient bore it excellently. As the fistula showed no tendency toward closing, an anastomosis was made between it and a loop of jejunum. A cure is reported to have followed.

This eminently simple means of improving the condition of such patients was carried out by me in the following case:

Nov. 25, 1914, Benjamin F., pedler, aged 44, was admitted to the Third Surgical Division of Mount Sinai Hospital. A year previously he had been forced to stay in bed a week by an attack of right hypochondriac pain accompanied by fever and jaundice. Two weeks previously another attack of pain in the right hypochondrium forced him to stay in bed. There was jaundice of one week's standing. During the past two days there had been repeated chills.

Physical examination showed a greatly prostrated, deeply jaundiced man with high fever, who gave the impression of being intensely septic. A right hypochondriac mass reached to the umbilicus.

Shortly after admission, the abdomen was opened through a Sprengel transverse incision, and a large pericholecystitic abscess was evacuated; the small, almost normal gallbladder, adherent to the duodenum, formed part of the lower wall of the abscess cavity. When it was opened, much purulent bile escaped; a severe cholangitis was present. The patient's miserable condition forbade prolonging the operation by exploration of the common and hepatic ducts; the abscess cavity and cystic duct were drained, and the abdominal wound closed up to the point of drainage.

A stormy long-drawn out convalescence ensued, complicated by cholemic oozing on the seventh day after operation (controlled by packings inserted under general anesthesia—the cut margins of the gallbladder mucosa were seen seeping blood), and further by a bronchitis with remittent temperature.

Finally seven weeks after operation (Jan. 14, 1915), the patient presented the following picture: There was no fever; the general condition was very poor; the pulse was of miserable quality; there was marked emaciation; all bile escaped through the fistula; the stools were white. Tentative closure (plugging) of the fistula caused cramps and failed to divert the flow of bile into the duodenum; evidently there was obstruction of the common duct. The patient's great weakness forbade operation. Following the procedure described by Schmilinsky for the management of such cases, all the bile was collected and introduced into the stomach by means of the stomach tube twice a day (8 ounces each time—16 ounces per day). At no time was there the slightest nausea. The collection was most conveniently carried out by a catheter which snugly fitted the fistula and led the bile into a bottle attached to the belt and worn under the clothing.

A remarkable improvement took place.. The appetite became much better.

Accordingly, Jan. 29, 1915, the abdominal wound was reopened under local anesthesia (1 per cent. novocain-potassium sulphate); then, under nitrous oxid-oxygen anesthesia, through a supraduodenal opening in the common duct, a stone impacted in the papilla of Vater was extracted. The common duct was drained with a small soft tube and the abdominal wall closed by layer suture up to the drainage tube. There was no febrile reaction for the first two days. On the second day cardiac decompensation occurred which, however, yielded to suitable stimulation in combination with the semiupright posture. From now on convalescence was uneventful. The patient was discharged cured, February 19; the fistula had closed; the stools were brown. He was presented before the Surgical Section of the New York Academy of Medicine, March 5, 1915, having gained 10 pounds since leaving the hospital.

The experience of Kausch[2] shows that bile cannot be administered by the mouth. A mixture of bile and red wine was tried. At the end of a week the patient refused continuation of the treatment. During this week, the entire amount ingested totaled but 445 c.c., an insufficient quantity to be of value to the organism.

The advantages of bile feeding by stomach tube for temporarily improving matters sufficiently to permit of further surgical intervention have been indicated above. As a permanent method in cases of inflammatory destruction of the common duct in which the lumen of the duct proximal to the papilla cannot be reestablished, it seems more troublesome but far safer than the forms of anastomosis employed at present in joining the biliary and intestinal tracts. Only too often does one read of death from ascending infection a year or two after operation and after months of apparent health.

CONCLUSION

The administration of bile in physiologic quantities, as just described, is a method for materially improving the condition of debilitated patients with biliary fistulas and common duct obstruction which seems distinctly worth extended trial.

34 East Seventy-Fifth Street.

1. Schmilinsky: Zentralbl. f. Chir., 1912, p. 1667.

2. Kausch: Mitt. a. d. Grenzgeb. d. Med. u. Chir., xxiii, No. 1.

Nursing Mother's Diet.—Nearly every writer on subjects related to maternal nursing, has declared against the view that certain foods ingested by the mother are capable of producing disturbances in the infant through the breast milk. Sour foods, fruits and gas-producing vegetables may be eaten by the mother if they do not cause discomfort to her. They produce no changes in the composition of the breast milk.—Isaac Abt, *Detroit Med. Jour.*, February, 1915.

AN UNUSUAL CASE OF GENERALIZED NONPIGMENTED SARCOMAS OF THE SKIN

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Sarcoma of the skin appears in several clinical varieties: it may be single or multiple, pigmented, nonpigmented, melanotic or hemorrhagic. It may remain limited to the skin or attack the viscera, and may be either primary or secondary. General primary nonpigmented sarcomatosis of the skin, especially of such rapid and extensive development as in the present case, is sparingly mentioned in textbooks and in the literature, and is sufficiently rare to be of interest.

Considerable confusion exists as to its place as a clinical and pathologic entity. General sarcomatosis is sometimes used as an alternate name for granuloma fungoides, and is by many considered to be related to the latter or to leukemia cutis. Unquestionably there are some cases which form a connecting link between these diseases, but it is beyond discussion that in others no grounds can be found to put them in the same class. In the case here reported, the absence of a premycotic stage, of subjective symptoms and of any ulcerating tendency is sufficient to exclude mycosis fungoides. The glands and the blood having been practically normal, leukemia could not be considered. Kaposi's grouping of mycosis fungoides, lymphodermia perniciosa and true sarcomatosis, including the multiple pigmented variety, under the collective name of sarcoid tumors, is partly to blame for the present unsettled status of entirely different pathologic conditions.

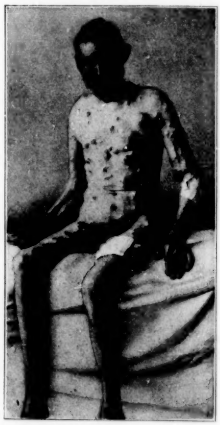

Fig. 1. — Patient with generalized nonpigmented sarcomas of the skin.

The present case is interesting from several points of view. While the tumors were present both in the skin and internally, we think we are justified in considering the skin the primary seat for the reasons mentioned below. The first tumor appeared on the flexor surface of the left forearm in a warty lesion of long duration in an individual of perfect health. The largest tumors were found in the skin, which permits the theory that they had existed longest and had had more time to develop. If the internal tumors had been present for any considerable time before their appearance on the surface, earlier and more severe constitutional complications would have been observed.

Unusual features of this case were the absence of subjective complaints such as pain or itching; the skin above and around the tumors remained normal in appearance and color until the very last; not a single tumor underwent degeneration and ulceration. Death was caused by asphyxia due to compression of the trachea. The patient was in our care three weeks after the start of his illness until his end, and close observation of his symptoms, microscopic examinations of excised specimens during life and finally a necropsy permitted a thorough study of his condition.

P. N., white, Dane, laborer, aged 39, entered the hospital Dec. 1, 1914, referred by courtesy of Dr. C. F. Baumeister, Avoca, Iowa. His parents had lived to an old age. The patient had always been healthy up to the time of his present illness. There was no venereal history. Three weeks prior to his admission to the hospital he noticed a small subcutaneous nodule on the inside of the left forearm in the place of a pigmented papillomatous lesion which had existed for many years without appreciable change. From this time on new nodules appeared rapidly in different places, until they were present all over the surface, gradually covering most of the body. The lower extremities were least involved. Five hundred and sixty-three tumors were counted. At first they were subcutaneous, the size of a marble and movable. As they grew larger they became adherent to the skin above and to the fascia, muscles and periosteum below. The elevation above the skin became gradually more prominent, reaching the size of a filbert to an orange. The largest were located on the right side of the neck and the inner surface of the elbow of the left arm. Their consistency was hard, almost wooden, with no soft or fluctuating areas. There was no tendency to degeneration and ulceration. The skin above and around the tumors was smooth, normal in color, except in a few, where hyperemia and telangiectases had been produced by compression of the superficial capillaries. The contour of the growths was globular, with a few nodular irregularities. The patient did not complain about itching or pain. He had lost considerable weight since the beginning of his illness and looked cachectic. He was in a slightly stuporous condition at the time of admittance, and very little information could be gained from him. Toward the last he had difficulties in breathing and swallowing and frequently vomited undigested food. Blood appeared in the feces early.

Blood: Hemoglobin 80 per cent. (Tallqvist). Red blood corpuscles, 5,170,000; the cells irregular in size and shape. White blood corpuscles, 7,180.

Urine: Amber, cloudy, with considerable sediment. Specific gravity, 1.030. No albumin, sugar, indican or blood present. Urates present.

Gastric Examination: Total acidity, 38; free hydrochloric, 4. Lactic acid and blood absent. Considerable mucus and many food particles.

The temperature was nearly normal to the last. The pulse was rapid and feeble.

The patient was considered hopeless from the start and a prognosis was made of a rapidly fatal ending, on account of the extreme involvement. Subcutaneous injections with Fowler solution, 5 drops daily, were tried without results.

On the eleventh day the patient had involuntary bowel movements. From the tenth day on he could not swallow any food and had to be fed by nutritive enemas, which were not retained. He died on the sixteenth day after admittance to the hospital, dyspnea and cyanosis having been extreme during the last days.

The chief pathologic interest relates to the distribution and the structure of the tumors. In the skin these were most numerous and most prominent on the arms, chest, abdomen, back and thighs. The largest mass, which measured 8 by 5 cm. and protruded 4 cm. above the level of the surrounding skin, was present at the

inner surface of the left elbow, at a point a short distance from the wartlike growth which had been removed thirteen days before death. Over the right zygoma was a mass 5 cm. in diameter, and beneath the chin another of equal size. The remaining, innumerable nodules varied in size from this down to such nodules as were just visible. With the exception of the two large tumors mentioned, the skin of the face and neck was free. The skin over the largest and medium sized nodules appeared thinned and was intensely congested, with a diffuse, bluish-red color. Over the summits of the smaller nodules fine, dilated, radiating vessels could be seen. No nodules could be seen on the forearms and legs, but very many could be felt beneath the skin, and an occasional very small one could be palpated in the skin of the dorsal surface of the hands and feet. The skin felt firmly attached to the larger masses. The smaller ones were freely movable in the subcutaneous tissue. No nodules were present in the mucosa of the mouth. The superficial lymph nodes were just palpable and apparently were not involved. There was no subcutaneous or omental fat.

Within the body the distribution of the tumors was striking in that, while nodules were present in uncountable numbers, the internal organs themselves were almost entirely free. The heart muscle contained a few, the largest 1 cm. in diameter. Three were present beneath the capsule of the liver, the largest 7 mm. in diameter. Within the left suprarenal was a single mass 3 cm. One loop of the middle third of the ileum, which lay superficially in lower half of abdominal cavity, contained several nodules, the smallest 5 mm., the largest, which was flattened, mushroom shaped, pedunculated and protruding into the lumen, 1.5 cm. in diameter. With the exceptions noted, the internal organs were free of macroscopic tumors, and no tumor tissue was found on microscopic examination.

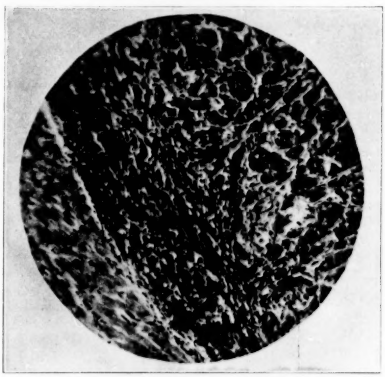

Fig. 2.—Myocardial metastasis. Small alveoli with a minimal amount of intervening stroma. The margin is sharply defined, unencapsulated, and there is no invasion; × 120.

The large number of nodules present within the body were scattered about in the mediastinal, the omental, the mesenteric and the retroperitoneal tissues. Behind the upper end of the sternum was a large multilobulated mass which completely filled in the space behind the manubrium. The posterior mediastinum contained numerous masses, most marked at the hilum of the lung, but not involving the bronchial lymph nodes. In the omentum, the tumors, too numerous to count, varied in size from shotlike nodules to an ovoid mass 5 by 5 by 3.5 cm. Most of the omental tumors were sessile, attached by very fine, long, fibrous peduncles. In the mesentery nodules were also numerous, being largest at the root of the mesentery. Large numbers of tumors were present in the retroperitoneal tissue, the largest ones being present about the kidneys and suprarenals. The pelvic tissues and organs were free.

The site of predilection for the tumors, both in the skin and in the internal tissues, was the loose areolar tissue. The nodules were sharply defined, pale, succulent, translucent, almost fatlike on section. The congestion noted over the large skin tumors was limited to the overlying skin.

Microscopically the alveolar arrangement of the tumor tissue is so pronounced as to suggest carcinoma. The alveoli are round, oval or elongated in shape, and vary considerably in size. In some of the tumors rather broad bands of dense fibrous stroma separate the alveoli; in others only very narrow stroma bands are present. Peripherally the tumor tissue is sharply defined, often surrounded by a thin layer of fibrous tissue. Only in the suprarenal metastasis and in one of the myocardial nodules is there any evidence of invasion at the periphery of the tumor tissue. Growth appears to have been almost wholly expansive.

The tumor cells vary in size and shape. The smallest, which are rounded or oval, average 18 microns in diameter. Somewhat larger cells are polyhedral, and the largest, which may measure 85 microns and more in diameter, are very irregular in outline. The nuclei are round or oval, vesicular, rich in fluid, with finely granular chromatin distributed in the form of a closely meshed network. Some nuclei are hyperchromatic. Most of the nuclei have distinct nucleoli, which stain deeply with hematoxylin. The larger cells are multinucleated; in many the nuclei are multilobulated. The cytoplasm is homogeneous, dense, very finely granular, and stains rather deeply with eosin. The cytoplasm of some of the cells contains light brown pigment so finely granular as to give the protoplasm a diffuse coloration. Mitotic figures are extremely rare. Evidences of direct division, on the other hand, abound, the great majority of the cells having nuclei in stages of direct binary fission or single or multiple budding.

The most striking lesion, histologically, is the tumor removed thirteen days before death from the ulnar surface of the left forearm, just below the elbow. This, which originally had a wartlike appearance, had been present for many years. As has been noted, it had begun to grow three weeks before admission to the hospital. Half of it became transformed into a smooth, rounded mass, identical in external appearance with the multiple tumors which developed so rapidly later. At the time of removal, the entire mass was 3 cm. in diameter and 0.8 cm. thick. It was sessile, attached by a short pedicle 3 mm. in diameter. One half had the rough, papillomatous surface of an ordinary wart; the remainder was round and smooth. Sections through the entire tumor show clearly the coarsely papillomatous character of the original tumor. The smooth portion is identical with the tumor nodules present in the skin and in the deeper areolar tissues. In the papillomatous portion are seen all gradations from the structure of a typical lymphangioma hypertrophicum to that of the metastasizing endothelial

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tumor tissue. The gradations are not seen in a single papillary outgrowth. The smaller ones contain numerous elongated and bandlike or round nests of closely placed, small, irregularly cuboidal cells. A large amount of granular, dark brown pigment is present beneath the epidermis; some occurs in cells between the lymphangiomatous islands, but the cells of the latter are free of pigment. An occasional thin epidermal downgrowth extends for some distance into the underlying stroma. In a medium sized papillary outgrowth the cellular alveoli are very closely placed and the individual cells are somewhat larger. In a still larger outgrowth occur numerous alveoli identical in appearance with the nodules elsewhere. In this and in the smooth, nodular half of the primary tumor the epidermis is compressed and thin, its under surface smooth.

For the peculiar distribution of the tumors it appears difficult to offer a satisfactory explanation. The parenchyma of the internal organs remained almost wholly free of metastases. The superficial lymph nodes, as well as the bronchial, mesenteric and retroperitoneal nodes, were in general spared. In the clinical and postmortem examination there was no evidence of obstruction to vascular or lymphatic channels, and similar evidence is wanting in the microscopic examination of the tissue about the tumor nodules, although particular attention was paid to this point as offering a possible explanation of the peculiar distribution of the tumor nodules in the skin. In view of the large number of tumors and of their widespread distribution in the deeper tissues as well as in the skin, it appears necessary to suppose a generalized distribution of tumor cells by way of the circulation. But why the development of tumors from such cells was confined almost entirely to the loose areolar tissues is a point in explanation of which we can only suggest variations in tissue susceptibility or resistance.

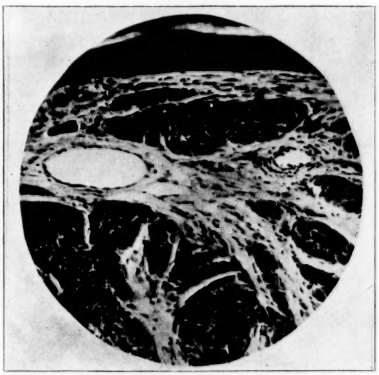

Fig. 3.—The primary tumor. Large alveoli in the subepidermal stroma; × 120.

SUMMARY

Sarcomatosis cutis includes several conditions, the inclusion of some of which among the true blastomas does not appear entirely justifiable. This is true of the idiopathic multiple pigment sarcoma of Kaposi, the presence of true pigment-forming cells in this condition also being not established with absolute certainty. The diffuse sarcomatosis of Kaposi is apparently the same as mycosis fungoides, which, in its earlier stages at least, has the histologic characters of an inflammatory granuloma rather than that of a true tumor. Multiple true sarcomas of the skin may arise from a primary skin tumor or they may be metastases from tumors of the internal organs; structurally they may be round or spindle cell, or they may be composed of pigment cells.

In the case reported, the sarcoma type, if one chooses to classify the tumor among the sarcomas, is the lymphendothelioma.

Over five hundred visible skin nodules were counted. There were in addition very many palpable but invisible tumors.

Innumerable nodules were present in the mediastinal, omental, mesenteric and retroperitoneal tissues. The parenchyma of the internal organs and the lymph nodes remained practically free of tumors.

The primary tumor developed from a papillomatous lesion near the elbow. Histologically this lesion was a lymphangioma hypertrophicum.

The case was characterized by the very rapid development of the secondary tumors. The first change in the previously benign primary lesion was noticed three weeks before admission to the hospital; death occurred on the sixteenth day after admission.

TUMOR OF THE THIRD VENTRICLE

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In a careful summary of the literature, T. H. Weisenburg[1] collected thirty cases of tumor of the third ventricle, and, by a review of the clinical and pathologic findings, established a syndrome. He distinguishes three symptomatic groups:

1. Those cases in which a tumor of a moderate size is situated in the floor of the third ventricle, and in which there is no extension into the foramen of Monro or aqueduct of Sylvius.

2. Small tumors so situated as to obstruct the foramen of Monro and whose position can be changed by deviation of the head.

3. Those tumors, whether large or small, which either extend into the aqueduct of Sylvius, affecting the surrounding structures by direct extension or pressure, or those in which the posterior portions of the cerebral peduncles and pons are compressed, either by direct pressure or by dilatation of the aqueduct of Sylvius.

The first class does not offer specific symptoms, but presents evidences of internal hydrocephalus, namely, headache, choked disk, nausea, vomiting and dizziness. In tumors of large size, indirect pressure on the internal capsule causes paresis of the corresponding limbs. These symptoms may likewise result from internal hydrocephalus alone. The reflexes are nearly always increased. The mental symptoms, generally supposed to be present in tumors of the third ventricle, are attributed by Mott[2] to the impairment of the function of the cortex as the result of the pressure of the dilated ventricles.

The second class is unimportant as but one case has been observed. This group presents a variation in symptoms of headache, nausea and impairment of vision on tilting the head forward.

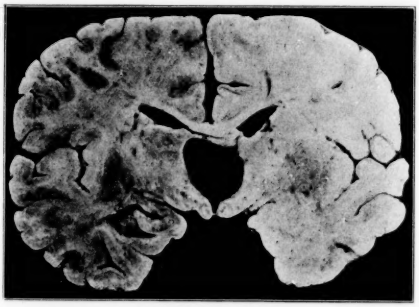
1. Weisenburg, T. H.: Tumors of the Third Ventricle, with the Establishment of a Symptom Complex, Brain, 1910, xxxiii, 236.
2. Mott, F. W., Wakelin Barratt, J. O.: Arch. Neurol., 1900, i, 417.

The third class offers a fairly well recognizable syndrome. The symptoms arise from involvement of the third nuclei, red nucleus, or superior cerebellar peduncles and from pressure on, or destruction of, the posterior longitudinal bundle or the intercommunicating fibers between the third nuclei. Among the symptoms noted are disturbance of associated ocular movements, oculomotor palsies, large pupils with impaired reaction, protrusion of the eyeballs, cerebellar ataxia, symptoms arising from pressure on the pineal gland and the general symptoms of tumor cerebri.

The following case did not present sufficient symptoms to permit localization of the tumor during life, but it possesses an interesting feature relative to the classification of tumors of the third ventricle.

History.—E. O., woman, aged 48, single, dressmaker, with a common school education, was admitted to the Kankakee State Hospital, March 21, 1911. The family history was negative as to points having any bearing on the disease. Nothing was obtainable concerning the patient's childhood. She was ordinarily of rugged health. She was not addicted to the use of alcohol. Nothing was known of any previous illness.

The present illness dated back to July, 1910, when it was noticed that the patient's memory was becoming defective. She became stuporous, apathetic and somnolent and became careless of her appearance, untidy and filthy. Further than the fact that she had lost 20 pounds in weight, there was no reliable statement as to her physical symptoms. From the patient it was ascertained that she had had dizziness and headache.



Tumor of third ventricle.

Examination.—At the time of admission this revealed a well-nourished woman whose height was 163.75 cm. (5 feet 4½ inches), weight, 91.8 kg. (202 pounds), with no deformities or malformations. The skin showed slight icteric tinge. There was no skin eruption. Examination of the lungs showed nothing abnormal. The heart was not enlarged, sounds were normal, pulse was regular, 100 per minute sitting, 108 standing, tension high. Abdominal wall and contents were negative. Organs of generation were negative. Urinalysis showed trace of albumin, pus and blood cells, no sugar.

Neurologic Examination.—Station and gait: The patient stands with lordosis. Sways slightly in the Romberg position. Cannot walk a straight line, gait is shuffling, toes point outward, has difficulty in turning quickly. In walking she bends backward, taking short steps which increase in rapidity, causing the patient to collide with any object obstructing her path.

Active Movements: Right side of the body slightly larger than the left. Left dynamometer 50, right 72. There is no inequality in movements of the muscles of the face. She wrinkles forehead, closes eyes, shows teeth, whistles and opens and closes mouth equally well on both sides. Ocular muscles show no paresis. There is no nystagmus, no exophthalmos. Tongue apparently deviates somewhat to the right when protruded, probably on account of an asymmetry of the teeth. Articulation is defective, slurring and lisping being present. Active movements of all four extremities are possible and well carried out with good power.

Passive movements show general increase of resistance. Tremors: Slight tremor of fingers, not intentional and more marked on the right side. Tendon and Joint Sense: At times the patient mistakes direction of movements of great toe; otherwise she does not show any change. Approximates finger to finger and finger to nose accurately. There is perhaps a slight clumsiness of movements of the left hand. Sensation: Tests for pain and touch sensibility not well responded to, owing to lack of cooperation. Patient does not take much notice of light touches on the left leg and toes, less on the right. Can feel slightest touch on the face. Makes numerous mistakes as to heat and cold on both sides. Stereognostic sense shows no defect.

Reflexes: Corneal and palatal present. Pupils 2 mm. in diameter, equal, react to light directly and consensually and also in convergence. Epigastric and abdominal present on left, absent on the right side. Plantar reflexes both of flexor type; at times extension of great toes occurs, but it appears to be a voluntary movement. Gordon absent. Has soiled herself several times. No incontinence of urine. Masseters, triceps and wrist jerks equal and normal. Knee jerks increased. Bilateral ankle clonus.

Special Senses: Olfactory normal. Visual fields apparently full. Hypermetropia. Hearing normal. Taste: Sugar is sweet on right, no taste on left; salt is sour on right, bitter on left. Does not recognize vinegar on right, calls it bitter on left. Owing to the mental state of the patient, replies cannot be relied on.

On lumbar puncture the cerebrospinal fluid gushed out, afterward dropped 60 drops per minute. Noguchi and Nonne-Apelt tests negative. Fehling test strongly positive, 2 cells per cubic millimeter.

Mental Examination: The patient is quiet and entirely passive, saying and doing nothing spontaneously. She presents an appearance of fatuous contentment, frequently smiles inanely and takes no interest in her surroundings. She shows no distress concerning the involuntary bowel movements. She is entirely disoriented and does not grasp the meaning of the situation even when it is explained to her that she is in a hospital for the insane. She, however, seems to realize that she is not clear by saying that "things seemed confused," but does not react in any way suggestive of perplexity. Cooperation is poor and she often does not answer questions, apparently from lack of interest. Memory, as far as can be tested, is extremely defective, and she seems unable to retain any facts given as tests of impressibility. The general fund of information also seems to be very deficient. No sense falsifications or delusional trend can be discovered.

The main features are therefore those of extreme mental dilapidation, without any localizing signs on the part of the projection system.

June 2, 1911, difficulty in standing increased. Gait now resembled a continuous falling forward, with an attempt to regain equilibrium. Patient complained of headache occasionally. Memory defect increasing.

July 1, 1911, patient was unable to stand or sit up, and during this week became rapidly weaker. Greatest weakness appeared to be in the lower extremities. In replying to questions, the patient's answers were irrelevant. No abnormalities were noted in the ocular muscles, although frequently looked for.

July 13, 1911, death occurred.

Postmortem examination was limited to the brain. On section there was found a tumor of the third ventricle.

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Macroscopically the tumor consists of an encysted colloid growth, situated in the third ventricle and probably originating from the ependyma. It is attached to the inferior surface of the center of the fornix and velum interpositum. It is ovoid in shape, thickest at the center, where it is about 2 cm. in diameter, and rapidly decreasing in size anteriorly and posteriorly to small pealike extremities. The growth originates posteriorly to the anterior commissure, occluding the foramen of Monro on the right side and dilating it also. By virtue of the direction of its growth from left anterior to right posterior, the tumor enters the lateral ventricle of the left side through the foramen of Monro (which it occludes). The ventricular portion of growth is about the size of a pea, greenish, mottled with yellow. The tumor by the growth drags the septum lucidum and fornix to the right and compresses the right optic thalamus more than the left. Below it lies on and separates the corpora albicantia and rests on the infundibulum. The anterior extremity of the growth, which projects into the lateral ventricle, passes above the anterior commissure. The tumor extends backward to a point just anterior to the middle commissure, where it ends in a small pealike growth. A plica in the septum lucidum curved to the right persists throughout. The tumor does not press on the red nucleus or occlude the entrance to the third ventricle posteriorly to the middle commissure.

The pineal gland is not encroached on. The aqueduct is small and the third ventricle above the middle commissure is dilated. The tumor is dark green except at the anterior portion, where it is mixed with yellow. The capsule surrounds it entirely and it is easily shelled out except at the upper and lateral right borders where it tears, showing a colloid, cheesy appearance, spotted with what appears to be degenerated blood pigment. The capsule is attached on both sides to the walls of the lateral ventricles, and the choroid plexus is seen to enter the third ventricle beneath the capsule of the tumor and forms a very slight elevation. The lateral ventricles are dilated, the right more than the left, and the choroid plexus on both sides show the formation of small cysts.

Microscopically the tumor consists of an encapsulated colloid cyst originating from a glioma. At the portion firmly attached to the cyst wall, the greatest number of undegenerated cells and nuclei are found. The capsule at this point is thickened, the connective tissue forming layers, between which are seen numerous lymphocytes, glia nuclei and a few Abraumzellen. The optic thalamus beneath this portion of the capsule is seen to contain a few Abraumzellen and a greater number of neuclei. The tumor proper consists of a greenish homogeneous material, embedded in which are numerous Abraumzellen, staining red with scarlet r. containing many globules, showing black with Bielchowsky stain. Within the Abraumzellen are found nuclei showing fatty degeneration, red blood cells and débris, fatty granules, and at the periphery of the cells, frequently a crescentic flattened nucleus. There are likewise seen throughout the tumor many colloid bodies, nuclei, lymphocytes and red blood cells. There are no fibers found within the tumor mass.

It is interesting to note that of thirty cases of third ventricle tumor collected by Weisenburg, only three extended into the lateral ventricles at all, and these protruded only slightly through the foramen of Monro, as was the case with the tumor here recorded. The tendency for growth is in the direction of the flow of cerebrospinal fluid. It is apparent that this tumor, which occluded the foramen of Monro, whose position did not change with deviation of the head, which did not extend into the aqueduct of Sylvius, and which but slightly compressed the pons, would, according to Weisenburg's classification, be placed in the third group. It would seem possible that, had not this tumor attained such a large size, it would have occupied the same position without resulting pressure on the pons, and, in such case, should properly be placed in a separate group in which the tumor is so situated that it occludes the foramen of Monro whether its position changes with variation in the position of the head or not. The cases in which these tumors are changeable in position should then be classified in a subgroup under this head. The symptoms of the group would be dependent on, first, the degree of hydrocephalus and, second, the amount of pressure on the surrounding structures. Inasmuch as there have been four colloid growths reported which did not extend into the aqueduct of Sylvius, and three other cases, excluding this tumor, which extended into the lateral ventricles through the foramen of Monro instead of the aqueduct of Sylvius, it is highly probable that this group will assume greater importance with the subsequent report of cases.

25 East Washington Street.

THE LESION IN A CASE OF SEROUS COLITIS

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Between the purely functional diarrheas, on the one hand, in which we believe no anatomic changes are associated with the disturbed activities of the bowel, and the well-defined dysenteries, such as croupous and amebic colitis, on the other, in which evident and often extensive lesions are always present, there lies a large intermediate group of cases, in which it is by no means easy to be sure whether actual anatomic lesions exist or not. The main reasons for our ignorance in this matter are first: such conditions are not, of themselves, fatal in adults so that postmortem examinations are rare; and second, if the changes are only those of congestion and exudation, they may easily be impossible of demonstration after death.

To the group in question, the general term "catarrhal colitis" is applied, and it may be subdivided as follows:

1. Catarrhal colitis in children which may become so severe as to take life, and regularly shows a swelling and sometimes a rupture of the solitary lymph follicles.

2. Catarrhal colitis in adults, with mucus the chief inflammatory product.

The lesion in these cases has been described by Delafield.[1] The lower end of the large bowel is the most frequently inflamed. The pathologic changes are congestion of the vessels of the submucosa and mucosa, with an abnormal quantity of mucus in the cells lining the tubules. There may be some emigration of leukocytes and some diapedesis of red cells. No ulcers occur, and the solitary lymph follicles remain unchanged. There are very frequent small passages composed of a few drams of mucus, in acute cases often blood streaked. Fecal matter is absent at first, and when it appears is usually formed, though very variable in amount. Colic and tenesmus accompany the movements. There is usually some fever.

As an example of this type I find the following among my records:

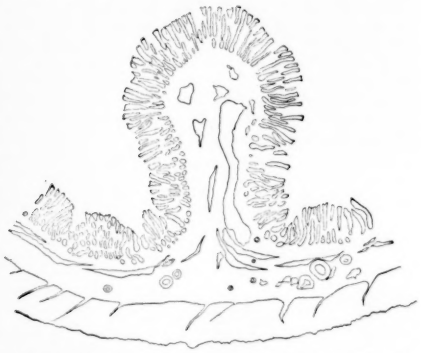
CASE 1.—Man, aged 25, began at 3 a. m. to have repeated small movements of bloody mucus associated with colic and rectal tenesmus. A passage which I saw was composed of about 3 drams of bright bloody mucus and nothing else. The

1. Delafield: Am. Jour. Med. Sc., N. S., 1897, cxiv, 401.

patient had little prostration and no fever and got well in two days with rectal irrigations.

3. Catarrhal colitis in adults with serous fluid the chief inflammatory product.

This condition differs clinically from the foregoing. The passages are copious, from one-fourth to one pint, at first soft fecal, then simply gushes of watery fluid, either green or brown, often preceded by colic



Camera lucida sketch of section of colon, showing outlines of the larger lymph channels in submucosa; × 15.

but unassociated with tenesmus. Blood does not occur, and mucus is absent or nearly so. The patients are prostrated and may even faint after a large passage. There is little or no fever. The condition lasts longer than the mucoid form, and if untreated, may run for weeks.

The following case, also from my private records, serves to illustrate the condition.

CASE 2.—Man, aged 35, without known cause, was taken with abdominal cramps and chilly sensations followed by fourteen large watery movements in twenty-four hours. The passages contained a few flakes of fecal matter but no mucus or blood. He did not suffer with tenesmus. He vomited once, was nauseated and much prostrated. With rest in bed and appropriate drugs the symptoms promptly subsided.

The lesion of this form of colitis has, I believe, not been described. I wish, therefore, to report the following case from the second medical division of Bellevue Hospital:

CASE 3.—A laborer, aged 41, was sick and died of a lobar pneumonia on the eighth day. On the sixth day of his illness, following a dose of salts, he began to have frequent copious watery discharges, without pain or tenesmus, which continued to the time of his death. In the two days he had about twenty passages of brown or green fluid, containing no fecal matter, no blood, and practically no mucus. He did not vomit. At necropsy, three hours after death, the heart was found normal. The whole right lung was consolidated. The stomach was distended with gas and a quart of light green, turbid, serous fluid, and its wall was coated with thick, tenacious mucus but not at all congested. The small intestine contained a moderate amount of viscid yellow chyle throughout. There was moderate gaseous distention of the jejunum; it was normal. The colon contained a little gas and was nowhere tightly contracted, though rather smaller than usually seen at necropsy. It was empty through its entire length, containing altogether about a half ounce of soft mucoid fecal matter, mostly in the caput. The mucosa was strikingly clean and edematous, looking as if it had just been washed in running water. There were no congestion, no ulcers, no hypertrophied lymph follicles. Under the microscope the mucosa and muscle coat were normal. The submucosa, only, was markedly thickened by edema, and its lymph spaces truly enormous. The accompanying illustration shows the relative dimensions of the larger ones. There were no congestion, no diapedesis of red or white cells and no follicular hypertrophy. There was marked thickening of the walls of the larger vessels, not due to muscular or connective tissue hypertrophy, but to a homogeneous swelling of their elements.

It is, of course, uncertain, with the bowel symptoms only an incident in the course of a lobar pneumonia and beginning after a saline, whether the lesion is characteristic of serous colitis or not. But necropsies are so rare and the pathologic features of the colon so definite and peculiar and yet so intelligibly associated with a copious serous exudate, that I have thought it proper to put the case on record as a contribution to the pathology of the condition.

A FENCE STAPLE IN THE LUNG

A NEW METHOD OF BRONCHOSCOPIC REMOVAL

CHEVALIER JACKSON, M.D., PITTSBURGH

The mechanical problem of the bronchoscopic extraction of an open safety-pin lodged point upward in the trachea or the bronchi is readily solved because of the ease with which the pin can be closed or cut in two for removal. With the double-pointed staple, however, we have to deal with a rigid body of tough steel that cannot be bent, sprung or broken. The author has succeeded in three cases in turning and withdrawing the staple by a method which is best illustrated by the last and most difficult case.[1]

Mr. W., aged 44, was referred to me by Dr. L. P. Warren of Wichita for the removal of a fence-wire staple which

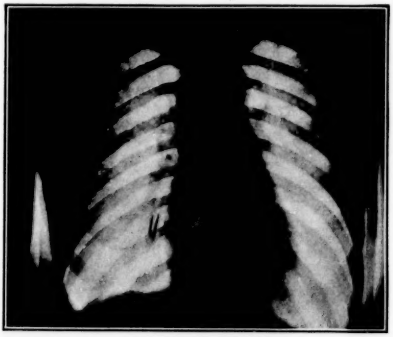


Fig. 1.—Anteroposterior view of chest showing staple in a posterior branch of the inferior-lobe bronchus. (From roentgenogram by Dr. George W. Grier.)

had been in the right lung for fifteen days, having been aspirated while being held in the mouth. There were no symptoms after the accident. Roentgenograms made for me by Dr. George W. Grier showed the staple to be in the lower lobe of the right lung (Figs. 1 and 2). Overlaying with my positive films of the tracheobronchial tree showed the

1. Since the foregoing was written, a fourth case has been similarly successfully dealt with. The points of a very large staple were turned down into the opposite main bronchus.

staple to be in a posterior branch of the inferior lobe bronchus, the bottom of the staple being 4 inches (10 cm.) below the bifurcation of the trachea. Evidently, as is usual with foreign bodies pointed at one end, blunt and heavy at the other, it had worked down by a ratchet-like movement as far as it could go. Respiratory, pulsatory and bechic movements favored deeper lodgment but were powerless to force the intruder back because of the immediate catching of one or both points.

The bronchoscope was passed under local anesthesia. The staple was found tightly wedged in the smallest bronchus it could enter, evidently having reached this location by the ratchet-like action usual with such foreign bodies. Both points were concealed in swollen mucosa as shown schematically at *A*, Figure 3. Obviously, to pull on such a body would mean the ripping of the bronchial wall and certain death to the patient, even if it were possible to make sufficient traction thus violently to pull out the staple.

Working the body slightly downward with a forked rod passed through the bronchoscope, the points were liberated. The staple was slightly rotated with forceps so as to bring the points in new places. With the combined use of hooks,

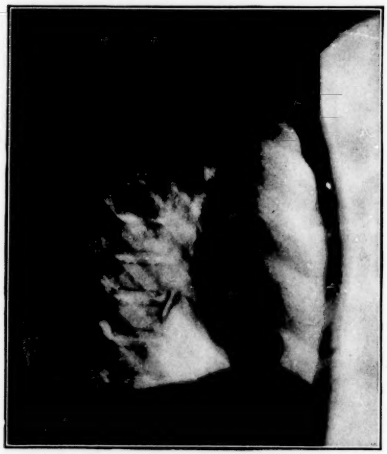


Fig. 2.—Lateral view of chest showing location of staple in lung. (From roentgenogram by Dr. George W. Grier.)

side-curved forceps and the lip of the bronchoscope the staple was gradually, after many slippings-back, manipulated about 1 cm. upward to a place where a pair of suitably spaced orifices of branch bronchi (*B*, *C*, Fig. 2) were available for the admission of the points. The curved end of the staple, *E*, was seized with my rotation forceps which form an eye on closing. Counterpressure being made with the bronchoscopic lip on the two points, the latter were guided into the branch orifices as traction with the forceps in the direction shown by the dart *F* caused the staple to turn over, loop-end upward. The staple being much too large to enter the bronchoscope, the loop was held against the bronchoscopic tube-mouth, the points trailing harmlessly behind, while the bronchoscope, forceps and staple were all withdrawn together, as shown at *K*. The duration of the entire procedure was one hour and twenty-one minutes, almost all of this time being consumed in the manipulation of the staple the one centimeter upward to the pair of branch-bronchial orifices. The anesthetic being local (cocain, 20 per cent.) the patient held his breath at command for a large part of a minute at many different times. Care was taken not to exceed the normally great resiliency of the tracheobronchial tree.

The patient had no rise of either temperature or pulse rate and left for his home in the west on the third day.

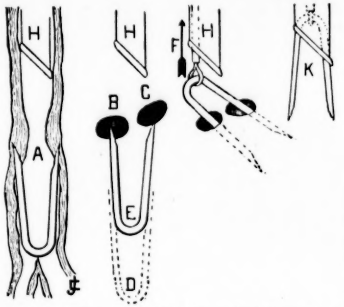


Fig. 3.—Schema illustrating a new method of removal (by version) of bronchially-lodged staples or double-pointed tacks. *H*, bronchoscope; *A*, swollen mucosa covering points of staple; *E*, the staple has been manipulated upward (*D* to *E*) with bronchoscopic lip and hooks until the points are opposite the branch bronchial orifices, *B*, *C*. Traction in the direction of the dart *F*, by means of the rotation forceps, counterpressure being made on the points of the staple, the points enter the branch bronchi and permit the staple to be turned over and removed with points trailing harmlessly behind (*K*).

Fig. 4.—Showing actual size of staple removed from the right lung, bloodlessly through the mouth, by bronchoscopy, after version as shown in Figure 2.

He is now, after three months, perfectly well in every way.

The staple is shown, actual size, in Figure 4.

Ninth Street and Penn Avenue.

GAUCHER SPLENOMEGALY DIAGNOSED BY SPLEEN PUNCTURE BEFORE OPERATION*

E. P. BERNSTEIN, M.D., NEW YORK

The following report should be of interest as it is the first case of its kind in the literature:

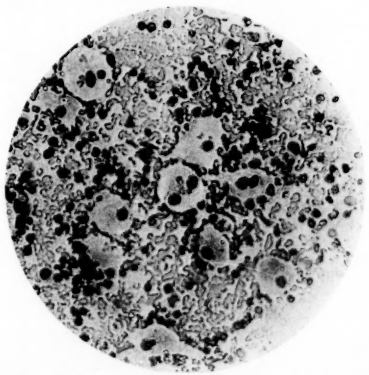


Fig. 1.—Smear from aspirated fluid. Giemsa stain. Low power, showing large multinucleated endothelioid cells.

The patient is the sister of a boy who had been successfully splenectomized by Dr. Henry Roth about two years

* From the Pathological Laboratory of the Lebanon Hospital.

previously for what was clinically diagnosed as Gaucher's disease and proved so after operation by histologic study of the spleen.

Other than this family history and a moderately enlarged spleen, there were no symptoms pointing to or warranting the diagnosis of Gaucher's splenomegaly in the sister. However, she was referred from the Lebanon Hospital dispensary by Dr. Charles Herrman to the surgical service of the hospital under the care of Dr. Parker Syms for operation.

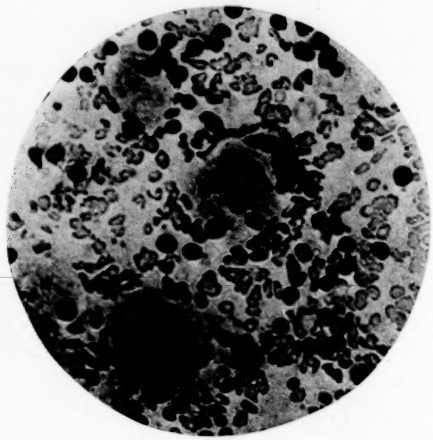


Fig. 2.—High power of Figure 1.

Dr. Syms was kind enough to follow my suggestion of spleen puncture before operation to establish the diagnosis.

While the idea has been voiced before, it has never been tried. A simple puncture with a good sized needle and syringe was made and sufficient spleen pulp and blood mixture was aspirated to render a good sized drop in the needle. This was spread over cover glasses, fixed with methyl alcohol and stained with the Giemsa solution. The characteristic multinucleated endothelioid cells were found in abundance and the diagnosis established (Figs. 1 and 2).

The spleen on removal showed the typical pathologic picture of Gaucher's disease both in spreads of the spleen pulp and sections of the organ.

Aspiration therefore has been proved of final diagnostic importance and should be especially valuable in doubtful cases.

A Suggestion for Removing Foreign Bodies from the External Auditory Canal.—Louis S., aged 7 years, in some manner lost the segment of rubber from the end of a pencil in his left ear. With reflected light I found the rubber filling the diameter of the ear canal and close to the drum. Mere touching of the foreign body produced severe pain, and I decided on instrumental removal under anesthesia. With the ordinary ear instruments it was impossible to get behind the obstruction, and while in this predicament it occurred to me that the dentist has a suitable instrument for this emergency. I procured from my dentist a Donaldson spring-tempered pulp canal cleanser. This is a steel wire with spirally arranged barbs. This wire was easily twisted into the mass of rubber, and the firm grip of the barbs enabled me to remove the foreign body with ease. This dental instrument sells for 15 cents, and, placed in a lead-pencil holder, would be a useful instrument for similar emergencies.—F. P. ANZINGER, M.D., Springfield, Ohio.

New Instruments and Suggestions

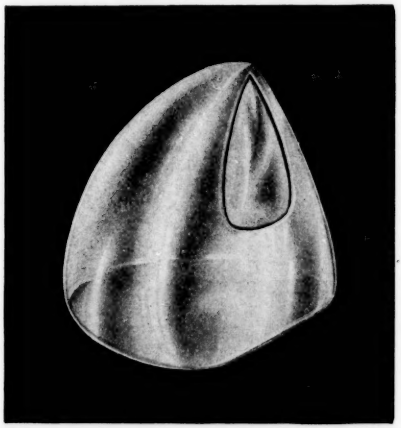
A SIMPLE MEANS OF OBTAINING SPECIMENS OF URINE FROM INFANTS

C. R. SPICER, M.D., CHICAGO

Routine urine analyses in an infant ward of a hospital disclose the fact that a substantial percentage of these little patients suffer from various kinds of urinary disturbances. Pyelitis and cystitis are common, nephritis by no means rare, as shown at necropsy, while acidosis and other metabolic disturbances are so directly reflected in the urine that, in the light of modern pediatrics, urine analyses are as important in infants as in older patients. The difficulty and inconvenience in procuring specimens of urine from babies, however, has doubtless caused much neglect in these cases.

A method commonly used is to strap a test tube or glove finger over the urinary outlet by means of adhesive plaster. This is usually effective, but it is considerable trouble to apply, even in boys, while in girls it is extremely difficult. Repeated applications of adhesive are also apt to cause excoriations of the skin. Some prefer to place the child on a bedpan. This is often successful, though troublesome, and defecation may also occur and contaminate the specimen. Straps of rubber are made to encircle the body or thighs and hold a test tube in position. While generally effective, they are uncomfortable to the child and troublesome to apply. Sponges and absorbent cotton are used, but with even less satisfaction than the foregoing schemes. The device here illustrated was made to meet the objections to the above methods.

The urinal has two plane surfaces, one on which it rests when not in use; the other, somewhat like a plane vertical section of a cone, is applied to the patient when procuring



Infant specimen urinal.

the specimen. An opening of suitable size and shape is located at the upper portion of this face so as to admit the penis or cover the vulva and admit the urine and exclude the feces. The other aspect of the device is convex, and when in use is covered by the diaper which holds it in place, no other means being required. It is molded in glass of sufficient thickness to withstand any ordinary stress. The capacity is about 15 c.c.

The patient may be allowed entire freedom of movement. Owing to the shape of the flask and the location of the open-

ing, it matters not whether he lies on his back, his side or his face, or whether he sits or stands; if urine is voided it will be collected and retained. When the diaper is loosened the urinal remains right side up.

While it was not originally intended to obtain twenty-four-hour specimens, by occasionally emptying the flask, quantitative amounts have been secured. The principal need in infants is a means of procuring a specimen of sufficient quantity for chemical and microscopic examination, free from contamination and without discomfort to the patient or trouble to the nurse. This simple device meets these requirements. It has been in use in the Children's Memorial Hospital for several months.

Children's Memorial Hospital.

SHIELD FOR PROSTATIC EXAMINATIONS

WILLIAM S. EHRICH, M.D., EVANSVILLE, IND.

The following is a description of a very simple but exceedingly useful little device to protect the hand in the none too pleasant examination and massage of the prostate gland.

Shield for prostatic examinations.

A piece of ordinary dentist's rubber dam is cut in a circle which will have a diameter of 5 inches. Through the center of this, a hole three-eighths inch in diameter is made.

After an ordinary finger cot is slipped on, the finger is pushed through the center hole, which, of course, fits snugly, leaving a margin of at least three-sixteenths inch overhang. This makes a joint which is waterproof, holds the cot firmly, preventing wrinkles, and absolutely protects the knuckles from any dirt on the external parts.

The shield is easily and quickly made, easily cleaned, and costs practically nothing.

A RELIABLE METHOD FOR TABLE MICROSCOPIC DIAGNOSIS

B. T. SIMPSON, M.D., BUFFALO
Pathologist, State Institute for the Study of Malignant Disease

From the fact that many men who have visited our institute knew nothing of this method, and that "table diagnosis" is in disrepute by many surgeons, it seemed worth while to publish this technic, which I have been using for the past three years. I was led to adopt it by finding that by the usual method of freezing the unfixed tissue, and staining by polychrome methylene blue, sections were sometimes unsatisfactory, and that a diagnosis given in one case was found to be incorrect when further sections were made on fixed tissues.

It seems to me that a great fallacy in making diagnoses at the table is the necessity of returning the report within three minutes. The surgeon expects to take his time with his operative procedure, while he expects the pathologist to be limited to a minimum time, and also to take the responsibility of the extent of the operation and the chances of the future of the patient. After my first mistake I refused to use the three-minute method, and frankly told the surgeons that I did not believe I could make a reliable diagnosis under eight minutes. I am happy to be able to say that, in the three years' experience with the following method, the table diagnoses have been confirmed in every case by further examination by the usual laboratory methods.

The method is as follows: Just before the surgeon is about to remove the tissue, a large test tube, about 2.5 cm. in diameter, containing about 40 c.c. of liquor formaldehydi, is brought to the boiling point and set aside. The removed tissue is laid on a dissecting board and cut with a sharp knife into sections about 5 mm. thick; these are carefully examined for suspicious areas, the selected piece is cut in a square 1.5 cm., put in the liquor formaldehydi, which is heated and allowed to boil for about thirty seconds, the tissue is now put in cold water for a few seconds, and then sectioned on the freezing microtome in the usual way. The sections are stained for half a minute in Harris acid hematoxylin and transferred in a weak solution of ammonia to bring back the blue color, then are run up through 50, 85 and 95 per cent. alcohols, then into 100 per cent. alcohol saturated with alcoholic eosin, then into carboxylol, put on the slide, blotted with filter paper and mounted in balsam. The section obtained by this method is usually as good as any frozen section obtained by the usual laboratory method.

113 High Street.

SOME NEW INSTRUMENTS TO SIMPLIFY THE MODERN TONSILLECTOMY OPERATION*

FRANCIS W. ALTER, M.D., TOLEDO, OHIO

With the multiplicity of instruments already devised for the enucleation of tonsils, one must indeed have a good deal of assurance to bring out something new along these lines. I have felt, however, that the instruments which I am presenting possess sufficient merit to warrant bringing them to the notice of the profession. The combination of instruments which I am presenting has been in use for the past two years, long enough to obtain data as to their practicability and reliability.

The three instruments and devices which I have used for over two years in tonsillectomy are a mouth gag, with a

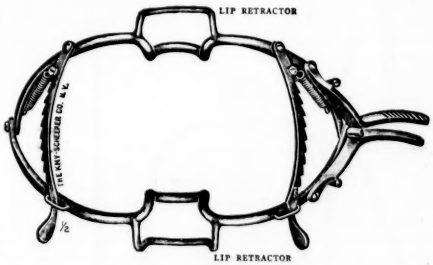


Fig. 1.—Mouth gag with lip retractor.

successful lip retractor; a tonsil-seizing forceps combined with a tongue depressor; and a suction apparatus, with a cut-off.

Figure 1 illustrates the mouth gag, which is a Whitehead gag, with the additional lip retractor. I have had as much trouble with the patient's lips getting pinched prior to the use of this instrument, as the average throat operator.

Figure 3 illustrates the combined tonsil-seizing forceps and tongue depressor, and it has the advantage that it eliminates the assistant whose duty it has been to hold the tongue depressor in position. This combined instrument has the decided advantage of depressing the tongue in the corner of the mouth just where the tongue needs to be depressed.

As will be seen, the lower finger loop of this instrument is open. It has been made this way in order that the snare

* Owing to lack of space, several illustrations are omitted from THE JOURNAL. They are included in the author's reprints.

wire can readily be slipped through this opening and over the upper finger loop.

Figure 5 illustrates the suction apparatus. This is an instrument which certainly has a decided field in the modern operation of tonsillectomy. The instrument can be fitted to an ordinary water faucet, and a gage attached to the jar registers the vacuum pressure in the demijohn.

The main advantage of this device is in the manner of working of the suction portion. This part acts as a suction

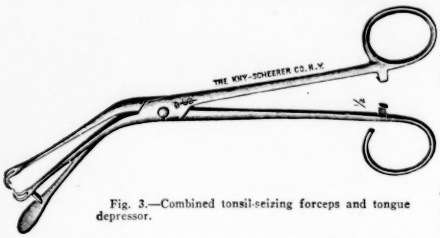


Fig. 3.—Combined tonsil-seizing forceps and tongue depressor.

when the small piston at the end is pressed with the thumb, and shuts off the suction when the thumb pressure is released.

In the use of this instrument it makes a true bloodless operation. There is no sponging in the throat and consequently less postoperative edema and soreness. It is an excellent device for drawing the uvula well out of the field of the snare wire.

It has the decided advantage that it can be placed in the field of operation, and in spite of oozing, the work can proceed without interference or interruption. It also has the

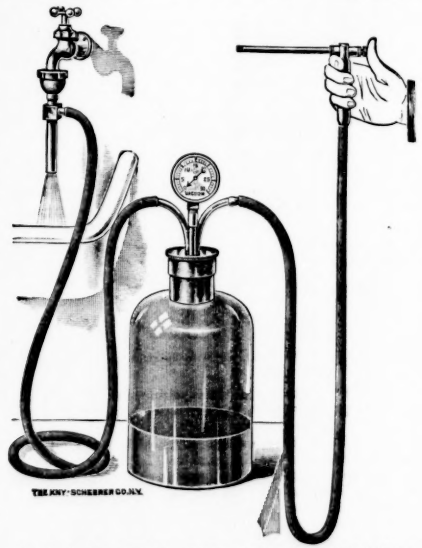


Fig. 5.—Suction apparatus complete, showing the method of holding the cut-off.

additional advantage of making an even anesthetic and hence less danger of shock and anesthetic calamity through reflex stimulation of the vagus.

314 Colton Building.

Special Article

PRACTICAL PHARMACOLOGY *

(*Continued from page 1849*)

XXII

EVACUANTS—(*Continued*)

Evacuants may be classified conveniently for study as follows: (1) those acting mainly on the small intestine; (2) those acting mainly on the colon; (3) those acting on the small and large intestines including alkaloidal evacuants; (4) those acting on the rectum; (5) miscellaneous measures for inducing purgation.

1. EVACUANTS ACTING MAINLY ON THE SMALL INTESTINE

OILS

Neutral fats and saponifiable oils like butter and olive oil pass practically unchanged through the stomach, but are saponified more or less completely in the small intestine, and the resulting soaps may be sufficiently irritating to the intestinal mucous membrane to cause increased peristalsis and with an excess of the fat or oil act as a mild laxative.

Castor oil, which consists largely of ricinolein, yields a soap that is much more irritating and prompt in its action. The direct influence of the irritation is usually limited wholly or mainly to the small intestine, because these soaps are absorbed into the circulation without reaching the colon. The increased peristalsis in the small intestine rapidly drives a large amount of fluid into the colon, distending it and causing an evacuation before the stools become fully formed, or at least while they are still soft, because a sufficient interval of time is not afforded for as much fluid to be absorbed as usual.

Castor oil acts mildly even in fairly large doses, because the ricinoleic acid is liberated slowly, and the more active the peristalsis the less is the time allowed for the further liberation of the acid, hence, to a certain extent, its action is self-limiting.

THERAPEUTIC USES

Castor oil is used frequently for children, being a dependable laxative or purgative which may be administered without fear of causing intestinal inflammation or disturbing the stomach seriously, but it is not suited for continued use in chronic constipation because of its gradually lessening effect. It is also applied to the skin and to the eye as a demulcent.

The dosage is 15 c.c. (4 fluidrams). The taste is disagreeable, and children manifest an especial repugnance for it, so that it is best administered in such a way that the taste is masked.

Because of its disagreeable taste castor oil is given preferably with pungent, freely frothing beverages, or enclosed in soft gelatin capsules holding about 1 teaspoonful. It may also be administered in the form of a mixture or emulsion and this latter type of administration is becoming popular. The following may be used as a type formula:

	gm.	or c.c.	
Benzosulphinid (saccharin)	0	05	1 grain
Oil of Cloves	0	2	3 drops
Oil of Cinnamon	0	3	5 drops
Alcohol	4	0	1 fl. dram
Castor oil.....q. s. ad	100		3 fl. ounces

* This is the twenty-second of a series of articles on useful drugs—on practical pharmacology for the general practitioner. As soon as completed, these articles, elaborated by additional subjects, will be published in book form.

In making this mixture, the benzosulphinid oil of cloves and oil of cinnamon should be dissolved in the alcohol and this in turn added to the castor oil.

Croton oil contains some free crotonoleic acid, which is irritant to the body tissues, hence it irritates the throat and stomach unless measures are taken to prevent it, and it may give rise to nausea and vomiting. It is decomposed in the small intestine, with the formation of crotonoleates. These are far more actively irritating than the ricinoleates, and croton oil causes more violent peristalsis than castor oil, but it may induce intestinal inflammation without purgation.*

THERAPEUTIC USES

Croton oil finds its special field of usefulness in mania and coma, when a prompt evacuation of the bowels is desired.

Its irritant action in the stomach, and the possibility of its causing severe intestinal inflammation limit its use as an evacuant to those cases in which the administration of a rapidly acting drug in small amount is necessary.

The dosage is 0.05 c.c. (1 minim). It may be administered in drop doses placed well back on the tongue, in the form of a pill made with breadcrumb or other absorbent, or diluted with a bland oil and given in a gelatin capsule, or simply dropped on a small lump of sugar which should be swallowed quickly.

RESIN ANHYDRIDS

There are many vegetable drugs which contain glucosidal acids, or anhydrids, which induce purgation in much the same way that castor oil and croton oil do. The drugs of this group, as a rule, are only slightly irritant to the stomach, but they become much more actively irritant in the presence of bile and when they reach the intestine cause increased peristalsis. The action of small doses is limited to the small intestine mainly but large doses often cause gastric irritation, with nausea and vomiting, and in addition to the effect on the small intestine some of the drug passes into the colon, causing pain, tenesmus and watery evacuations. Very large doses may cause bloody stools, collapse and even death. Moderate doses of these drugs cause little or no pain, but active peristalsis in the small intestine is accompanied by sounds and sensations due to the movements of fluid and gas.

THERAPEUTIC USES

All the members of this group except podophyllum and its resin are used to secure prompt evacuation of the bowels, and all of them are capable of causing profuse watery stools. Their actions are quite similar, differing only in minor details, hence it is often a matter of no great importance which of the drugs of the group is used in a given case.

They are used for the removal of fluid in dropsical conditions, especially as a preliminary to the use of digitalis and other drugs which promote diuresis. They were formerly used much more for this purpose than at present, and many physicians have abandoned their use in this way because of the dangerous depression which they sometimes cause in those suffering from cardiac diseases, and in asthenic and anemic patients.

These drugs, in doses sufficient to cause watery stools, remove fermenting and putrefying material, as well as bacteria, from the intestinal tract, and repeated catharsis may render the bowel almost sterile for a time perhaps, but large doses of such irritants may injure the natural protective powers of the intestine against bacteria and permit the latter to grow more rapidly than before.

Colocynth extract, resin of jalap or elaterin may be used for the removal of poisons which have passed through the stomach into the intestine, especially when the poison has been taken in a slowly absorbable form (belladonna berries). The action of podophyllum is usually elicited too slowly for this purpose.

The severe irritant action of these agents contraindicates their use in the presence of severe inflammation of the intestine, and large doses are contraindicated in menstruation and in pregnancy, but small doses have practically no effect on the uterus, and may be used without fear of inducing miscarriage or abortion.

The resin anhydrids are sometimes used for the removal of hard dry masses of feces which have been allowed to accumulate in the colon, because of the large amount of water which they drive into that organ. It is more rational to administer a suitable enema when such masses are to be softened, because they do not take up liquid rapidly, and even violent peristalsis may be insufficient to force them through the anus if they are formed into large masses.

Different members of this group have been recommended for the treatment of chronic constipation, and while they are useful at times, it should be remembered that constipation is a symptom of some other condition. It is better to determine the nature of the cause and direct one's efforts toward relieving it than to use the same method of treatment in every case because of the presence of a single symptom. It is impossible to enumerate here any considerable number of the causes of chronic constipation, but it is probable that its ultimate cause may be found in any one of a large number of habits, or minor derangements of various organs. It has been explained that the diuretic action of tea and coffee may augment chronic constipation by increasing the viscosity of the blood; excessive sweating may do this also. The habitual taking of an insufficient amount of water between meals is a common cause, and at least six glasses of cold water should be taken during the day in addition to any liquid that may be taken at meals. An even larger allowance should be taken if one drinks much tea and coffee, provided that this causes diuresis; or if one sweats a great deal. One is apt to suppose that any loss of water from the body in the urine and sweat is quickly made up through the amount taken for the relief of thirst thus induced, and while this is ultimately true, the amount of water in the circulation and tissues varies quite considerably from hour to hour.

An insufficient, or poorly regulated diet, is probably the commonest cause of chronic constipation, even the value of open air exercise being due largely to the increased appetite, as well as to the improved circulation and consequent secretion of digestive juices.

The trouble usually lies in the sluggishness of the large intestine, whether this be due to an atonic condition of its musculature, or to the lack of bulk in the contents received from the ileum, but the choice of the remedy may be governed by the necessity of avoiding irritation in that part of the intestine which is the seat of inflammation; for example, one would not use an irritant to the colon in the presence of appendicitis, even after the symptoms have begun to abate. It is

* Owing to lack of space the materia medica of this group is omitted from THE JOURNAL. It will be included when this series is published in book form.

conceivable that muscular atony may be the cause of disturbance in one case, while another presenting much the same clinical picture may be due to some disturbance in Auerbach's plexus.

DOSAGE

Colocynth is not used in substance; the extract is laxative in doses of about 0.03 gm. (½ grain) and drastic in somewhat larger doses, but nearly all evacuants vary widely in their action on different individuals, and with the same individual at different times. One reason for this is that there are all degrees of inertia of the bowel to be overcome, and just as constipation is due to so many different causes, the dose of any given drug to correct it will vary. It is true, however, that any individual who suffers from chronic constipation, or even from occasional attacks, will usually require approximately the same dose to relieve it at different times. Hence the doses given for the purgatives are approximate only, and the drastic dose for one will be merely laxative for another. In the absence of experience as to the dose required for a given patient it is well to give a small dose at first and repeat it in from four to six hours if necessary, except in the case of podophyllum. Drastic doses are not recommended.

The compound extract of colocynth contains extract of colocynth, aloes, scammony and soap, and belongs to the group which acts on the small and large intestines. It is given in doses of 0.5 gm. (7½ grains). It is much used in the form of the official compound cathartic pill,[2] which is recommended only for its effectiveness.

The dose of elaterin is 0.005 gm. (1/10 grain).

Jalap is seldom used in substance alone, but the dose is stated as 1 gm. (15 grains). The compound powder of jalap, containing potassium bitartrate, acts as a saline, as well as a resin anhydrid.

Podophyllum is seldom given in substance; the laxative dose of the resin of podophyllum is about 0.005 gm. (1/10 grain), the purgative dose is about 0.015 gm. (¼ grain).

Drugs belonging to the group of resin anhydrids are preferably administered in the form of pills or massed and enclosed in gelatin capsules.

2. *EVACUANTS ACTING MAINLY ON THE LARGE COLON*

ANTHRACENE DERIVATIVES

The drugs of this group are said to belong to the group of anthracene, or anthraquinone, derivatives because the crude drugs of the group depend for their evacuant action on one or more substances which may be considered as derived from anthracene ($C_{14}H_{10}$) or from a derivative of it called anthraquinone ($C_{14}H_8O_2$) which differs from anthracene by having two CO groups uniting two benzene rings, whereas in anthracene the rings are united by two CH groups. Hydroxyanthroquinone has an OH replacing an H of anthraquinone, and several hydroxyanthroquinones are present in different drugs of this group. Among the most common are di-hydroxy-anthroquinone, or emodin, and tri-hydroxy-anthroquinone, or chrysophanic acid.

Emodin is present in all the crude drugs of this group, it and other closely related bodies being formed by the decomposition of glucosidal bodies which are present in larger amount in the crude drugs.

These hydroxyanthroquinones pass through the stomach and small intestine causing no irritation and exert their specific action on the colon. They cause purgation after the lapse of about sixteen to twenty hours following their administration in most cases.

Small doses cause normal evacuations attended with little or no colic; larger doses cause soft, or watery stools, which may be preceded by severe colicky pains. This irritant action on the colon contraindicates their use in menstruation and in pregnancy, because they induce reflex irritation in the uterus, increasing the menstrual flow when menstruation is in progress, or tending to cause expulsion of the fetus during pregnancy. It is possible that they also act directly on the nerves supplying the uterus. The action which contraindicates their use during menstruation indicates their employment as emmenagogues when it is desired to institute the flow.

Aloes contains about 10 per cent. of aloin which belongs to the hydroxyanthroquinone group. Aloin is inactive itself but is changed into an irritant amorphous substance in the colon, and on this decomposition product the purgative action depends. The formation of this decomposition product is facilitated by the presence of alkalies and iron, hence aloes and aloin are frequently administered with soap and iron.

Aloes is especially prone to cause uterine contractions, probably because the aloin is absorbed in part and acts directly on the uterus, hence purgative doses of aloes are especially contraindicated in pregnancy, but it is the most frequently used of the group for its emmenagogue action. Aloin, after its subcutaneous injection, is excreted into the large intestine causing purgation, but the injection is painful.

Fresh cascara sagrada contains emodin and also a ferment having an emetic action, but this ferment is gradually destroyed when the drug is stored. It also contains a bitter principle which may be utilized as a tonic but the taste is so disagreeable that many prefer to use a preparation in which the taste is masked, or one from which the bitter has been removed in part.

Rhubarb contains chrysophanic acid and emodin. The chrysophanic acid is quite irritant, but it is absorbed without reaching the colon, hence it does not participate in the typical rhubarb action. The irritant action of chrysophanic acid is utilized therapeutically as an application to the skin in the form of chrysarobin ointment, chrysarobin being a compound of chrysophanic acid. Rhubarb also contains tannin; hence it is astringent in small doses, laxative in large, and the astringency tends to assert itself after the laxative effect has been induced. It sometimes causes nausea and headache. The aromatics present in the aromatic syrup enhance the astringent effect.

Senna contains emodin and a bitter resin, which is removed by percolation with strong alcohol before preparing the fluidextract and the syrup. This treatment does not impair the cathartic action of the preparation but it renders it much less disagreeable to the taste and prevents the griping to a large extent.

PHENOLPHTHALEIN

The action of phenolphthalein is much like that of the other hydroxyanthroquinones over which it appears to possess no very decided advantage; it is capable of giving rise to poisoning when overdoses are used.

2. This preparation is a survival of the "shot-gun" type of mixtures; there is a rational basis, perhaps, for the employment of two evacuants having different seats of action, but there is no apparent advantage in using together two substances having such similarity of action as colocynth and scammony.

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DOSAGE

The laxative dose of aloes is from 0.03 to 0.05 gm. (½ to 1 grain), the purgative dose (which is not recommended) is from 0.15 to 0.3 gm. (2 to 5 grains). As an emmenagogue the larger dose is employed. Aloes, the extract of aloin, is commonly used with extract of belladonna or atropin in the treatment of chronic constipation, but the continued use of atropin even in small doses is not certainly free from objections, and there seems less reason for its use with small doses of these drugs than with the larger ones used for active purgation. The official compound laxative pill, which is practically identical with certain proprietary preparations, contains 0.8 mg. (1/80 grain) of extract of belladonna, representing about 1/10 mg. (1/650 grain) of atropin. This dose of atropin is probably without material effect on the intestine when a single dose is taken, but the possibility of its disturbing the digestion when long continued is worthy of consideration. The compound laxative pill also contains strychnin and ipecac. The aloin alone in the form of a pill will often act quite as well as the more complex mixture.

To avoid gastric irritation aloes and aloin are preferably administered in the form of pills or, like the drugs belonging to the group of resin anhydrids, massed and enclosed in gelatin capsules. For making the necessary mass it has long been a practice to use soap or one of the gum resins like myrrh or asafetida which have the additional advantage of being somewhat aromatic.

Typical combinations for pills of aloes are included in the several pharmacopeias, the only objection to them being that they are set formulas instead of being adapted to the case in hand. They serve, however, to illustrate the combinations that have been used.

Aloes may be prescribed somewhat as follows:

	gm.	gr.
Aloes	1.3	20
Soap	1.3	20
Mix and make into 10 pills.		
Aloes	1.3	20
Myrrh	0.6	10
Powdered Glycyrrhiza	0.6	10
Syrup a sufficient quantity.		
Mix and make into 10 pills.		
Aloes	1.0	15
Asafetida	1.0	15
Soap	1.0	15
Mix and make into 10 pills.		

The dose of extract of aloes is only slightly smaller than that of the aloes itself, and there are no sufficient reasons for the use of this preparation. The laxative dose of aloin is from 8 to 20 mg. (1/8 to 1/3 grain). Phenolphthalein is given in doses of 0.05 to 0.5 gm. (1 to 8 grains) in capsules or cachets. Larger doses are not to be recommended in case this is not effective. Cascara sagrada is practically never given in substance; the fluidextract and the aromatic fluidextract may be given in doses of 0.6 to 2 c.c. (10 to 30 minims), the smaller dose is for repetition several times daily, the larger dose is given after dinner or at bedtime, preferably so that the action may be induced the next morning. The dose of the extract of cascara sagrada is from 0.1 to 0.5 gm. (2 to 8 grains). One should aim to use the smallest dose which is effective, and reduce this from time to time.

Rhubarb is sometimes used in the form of the powder, or one may obtain the drug in the form of "cubes" or "fingers" which are carried conveniently when it is desired to take several doses during the day. The laxative dose of rhubarb is about 1 gm. (15 grains) or more; with smaller doses—0.1 to 0.3 gm. (1½ to 5 grains) the bitter and astringent actions only are obtained. The dose of the extract of rhubarb is about one-fourth that of the crude drug. The dose of the aromatic tincture is about 2 c.c. (30 minims) and that of the aromatic syrup about 8 c.c. (2 fluidrams). The cathartic dose of senna is about 4 gm. (60 grains) in the form of powder or infusion. The dose of the compound powder of glycyrrhiza (in reality a preparation of senna) is 4 gm. (60 grains). The fluidextract is given in doses of 2 c.c. (30 minims) and the syrup in doses of 4 c.c. (1 fluidram). This dose of the syrup is only half as active as the dose given of the fluidextract.

THERAPEUTIC USES

The evacuants of this group are widely used in small doses as laxatives in the treatment of chronic constipation. Aloes, or aloin and cascara sagrada being especially valuable for this purpose. Cascara often exerts a tonic action on the intestine, permitting of a gradual diminution and stopping of the dose as the intestine regains its normal function.

The irritant action of the drugs of this group is so slight that they may be used in small doses for long periods without giving rise to inflammation, and the colon does not appear to habituate itself to their action, so that the same dose may continue to be effective for years. It is true, however, that with increasing obstinacy of the constipation larger doses are often called for in time, but this is rather from an augmentation of the condition which gave rise to constipation, and not from habituation to the drugs of this group.

Cathartic doses of aloin and aloes are not especially to be recommended, cascara sagrada or senna being preferred in such cases. One of the most effective of the common cathartic mixtures is the old time compound infusion of senna (senna, 6; manna, 12; magnesium sulphate, 12; fennel, 2; water to make 100), which acts on the large intestine and in addition promotes peristalsis in the small intestine by preventing absorption of fluid.

Rhubarb is used in the earlier stages of diarrhea to remove irritating substances and then to check intestinal movements; the aromatic syrup is especially adapted for children.

SULPHUR

One of the important irritants for promoting peristalsis in the large intestine is hydrogen sulphid formed in the course of decomposition of sulphur-containing substances in the large, and also in the small, intestine. The production of hydrogen sulphid can be materially increased by the administration of sulphur through the action of micro-organisms and albuminoids, more particularly the protein substances present in the small intestine. Sulphur is not affected in the stomach. A portion of the hydrogen sulphid formed is absorbed, some of it is oxidized further and eliminated with the urine as sulphates and a portion not so oxidized is eliminated by the skin and the lungs as hydrogen sulphid. The latter rather objectionable feature has no doubt had much to do with the decline in the use of sulphur as an evacuant.

DOSAGE

Sulphur, because of its insolubility and practical inertness, may be administered in liberal doses; 4 gm. (60 grains) being frequently given. It is still used in medicine in the form of the compound powder of glycyrrhiza referred to under senna.

(To be continued)

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NEWER KNOWLEDGE REGARDING INTESTINAL OBSTRUCTION

The search for the cause of the symptoms and death which frequently attend intestinal obstruction has called forth the efforts of some of the most representative American laboratories in the attempt at an elucidation. At present there is an agreement on some of the features of the situation and a few apparent contradictions in respect to others. Few complex problems of immediate surgical interest have been attacked with greater intelligence and promise of solution. The symptomatology and pathology of intestinal obstruction have been considered from many angles, until today it seems possible to make certain general statements which are likely to improve greatly the surgical treatment of a serious condition. One group of investigators has emphasized the loss of body fluids as a factor in the causation of death; another has pointed out the damage to the intestinal mucosa which must usually be reckoned with; still others have directed attention to the rôle of the ensuing interference with the circulation in the obstructed bowel, and to the opportunity which this offers for an unusual performance on the part of alimentary bacteria.

Interesting though the history of this chapter of medical research may be, there is little practical advantage at this time in reviewing the steps in the direction of the progress made. Most, if not all, of the observers believe that the serious symptoms and death are the result of a toxemia. Where and how the responsible toxin is produced and absorbed has not been so easy to determine. In the words of the most recent contributors in this field, "When the problem of intestinal obstruction is reduced to its fundamentals, it seems that there is not such a wide difference of opinion between the experimental workers, except as to the source and the physical and chemical characteristics of the toxic material which is responsible for the symptoms and death, the apparently contradictory statements being more the result of undue emphasis on different factors, and the failure to distinguish clearly between the production and absorption of the toxin."

To a certain extent, Murphy and Brooks[1] of the Washington University Medical School have reconciled the conflicting opinions.[2] The toxins which are present in the content of the obstructed bowel and which, when absorbed in sufficient amount, produce the definite pathologic lesions, are the result of bacterial growth. It has been possible, after continued drainage, to obtain a jejunal loop which was sterile. Occlusion of this failed to produce the usually expected death; and the accumulated fluid was not toxic as it ordinarily is when bacteria are present. The toxins are not specific for any part of the intestinal tract, as was earlier believed by some of the investigators. Following the obstruction and interference with the nutrition of the gallbladder containing intestinal bacteria, symptoms identical with those of intestinal obstruction may be observed. The contents of such a gallbladder, even after sterilization, produce symptoms and a pathologic picture identical with that following the injection of the content of an obstructed segment of intestine. A sterile gallbladder, however, can be obstructed up to the point of complete gangrene without the appearance of symptoms or the development of toxic contents.

The toxic substance does not pass through a normal mucous membrane. This is a fact of major significance, so that in the production of harmful effects, the factors which make absorption possible are of more importance than those which produce toxin. Interference with the circulation of the obstructed intestine helps to institute the damage that permits of abnormal absorption. It has been puzzling to find that simple obstruction of a segment of the duodenum or jejunum results in earlier or severer symptoms than similar obstruction of the ileum. It appears, however, that the more abundant secretion into the upper bowel leads to a more rapid distention and consequent circulatory disturbance of the bowel wall. The toxin may enter the circulation by way of the thoracic duct.

It is still too early to generalize about the nature of the poisonous substance. Its chemical and physical characteristics are stated to vary with the duration of the obstruction. The effects in respect to symptoms and lesions produced seem to resemble those attributed to so-called ptomains.[3] The outcome of the foregoing studies already furnishes valuable guidance in a practical way. In the surgical treatment of cases of intestinal obstruction, that part of the intestine with a mucous membrane which has been so damaged as to permit of abnormal absorption should be resected rather than drained. The restitution of the body fluids lost must also not be neglected.

1. Murphy, F. T., and Brooks, B.: Intestinal Obstruction: An Experimental Study of the Causes of Symptoms and Death, Arch. Int. Med., March, 1915, p. 392.

2. The literature of the subject, including particularly the work of Murphy, Whipple, Hartwell and their collaborators, is given in the paper already referred to.

3. Faust, E. S.: Arch. f. exper. Path. u. Pharmakol., 1904, li, 243; Die thierischen Gifte, Braunschweig, 1906.

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THE USE OF ALKALIES IN ASIATIC CHOLERA

It is not far from the truth to say that until recently the treatment of cholera has been essentially expectant and symptomatic. Specific antiseptic substances administered by mouth to inhibit the growth of the infecting organisms in the alimentary tract have been without value. Attempts have been made sometimes to expel the bacterial invaders by the use of purgative drugs. Yet such procedures fail to bring any relief whatever to some of the consequences and complications that attend the original intoxication. Prominent among the latter are the renal lesions, not infrequently accompanied by uremia.

Dr. A. W. Sellards[1] of the Johns Hopkins Hospital, who has had an extensive experience in the treatment of cholera in the Far East, has lately pointed out that some of the symptoms of uremia which resemble toxemia are due, not to the presence of a foreign toxin, but to the depletion of a normal constituent of the blood. In cholera, according to Sellards, there is a greatly increased tolerance to alkali bicarbonate. This tolerance, however, is not specific for the nephritis of cholera. It occurs not only in nephritis arising from other infections, but also in the nephritides which are free from infection. In this respect, therefore, there is a close relationship between the renal lesions of Asiatic cholera and the ordinary forms of acute and chronic nephritis. In renal disease (chronic interstitial nephritis and primary contracted kidney) a group of clinical symptoms, including dyspnea, changes in the alkali content of the blood, and decrease in its quota of carbon dioxid, reach their height during the stage of uremia. Similarly uremia, which follows the common renal disturbances of cholera, is plainly something more than a mere intoxication. The death rate from the uremia alone has been higher than in the majority of the common specific bacterial infections.

It is at this stage of reaction in cholera, when the evidence of nephritis is becoming prominent, that a distinct increase in the tolerance to sodium bicarbonate develops.[2] Sellards has described it as a clinical picture of acidosis. It seems best, however, to avoid the use of this ill-defined term, which means intoxication with acid in its original sense. As Fischer remarks: The word "acidosis" has had its meaning twisted so greatly to suit the whims of different authors that it might well disappear from our medical and physiologic writings. The mere finding of various acids or "acidosis compounds" in the urine or elsewhere does not yet mean an acid intoxication. The acetone bodies of the diabetic do not betray an acid intoxication, but an altered chemistry from which an acid intoxication may result. A normal or abnormal acid may be produced in great quantities in the organism and appear in the urine, yet if sufficient base is available they are neutralized and so are practically without effect.[3] What Sellards actually implies to be the nature of the "acidosis" associated with the nephritis and uremia of cholera is an impoverishment of the sources of fixed bases in the body.

This deficiency in carbonates, with its train of symptoms ending in coma and air hunger, is conceivably attendant upon a diminished excretion of acid on account of urinary changes due perhaps to impaired functional capacity of the kidneys; or it may be attributable to loss of alkali directly by the bowel during the excessive purging that occurs. In any event, Sellards believes that the clinical evidences are sufficiently definite to constitute a rational basis for treatment of the uremia of cholera with alkalies in the form of bicarbonate. He maintains that in practice it has proved far more efficient than the use of solutions of sodium chlorid, which have been employed with some success in the stage of collapse to restore the fluid lost from the body.

Alkali therapy in cholera is not entirely new. The attempt of Sellards is in the direction of a more rational application of the principles discussed above. It is regarded as advisable to give a mildly alkaline solution (0.5 per cent. of sodium bicarbonate) early in the course of the disease, before an outspoken uremia has developed, and to increase the quantities if symptoms of uremia appear. As much as 100 grams (3½ ounces) of bicarbonate may be required in the course of two or three days. Experience in two epidemics of cholera speaks favorably for this mode of treatment.

1. Sellards, A. W.: The Relationship of the Renal Lesions of Asiatic Cholera to the Ordinary Nephritides, with Especial Reference to Acidosis, Am. Jour. Trop. Dis., 1914, ii, 104.
2. Sellards, A. W.: Philippine Jour. Sc., B., 1910, v, 363.

THE TREATMENT OF INFECTIOUS DISEASES WITH THE SPECIFIC SERUM OF CONVALESCENTS

Shortly after the discovery of diphtheria antitoxin, numerous efforts were made to find antitoxins for various other infectious diseases, as it was believed that the principle illustrated by the treatment of diphtheria with antitoxic serum was one of general application. It soon was learned, however, that only in diphtheria and tetanus is recovery dependent on the direct neutralization of definite toxins by specific antitoxins. In the course of this search for specific methods of treatment it was proposed to use the serum of convalescents from attacks of certain familiar infectious diseases. Thus, Weissbecker[1] tried the subcutaneous injection of 10 c.c. of the serum of convalescents in measles, scarlet fever, typhoid fever and pneumonia, reporting good effects especially in the latter disease. He reasoned that recovery from these diseases is the

3. Fischer, M. H.: Edema and Nephritis, New York, John Wiley & Sons, 1915, p. 640.
1. Weissbecker: Ztschr. f. klin. Med., 1896, xxx, 312; 1897, xxxii, 188.

result of a natural immunization, and that consequently the blood of convalescents may be assumed to contain specific antitoxins or, more broadly, specific antibodies.

Huber and Blumenthal[2] were impressed favorably with the effects of specific convalescent serum in scarlet fever, measles and pneumonia, and von Leyden[3] described sixteen cases of scarlet fever treated in this way, in three of which crisis occurred immediately after the injection of the serum, the quantity of which varied from 10 to 20 c.c. In one case the development of the rash was arrested. Von Leyden makes no mention of the exact time after the attack when he obtained the serum. This report was followed during the next year by a few further reports mostly with "good results"; but now the method fell into abeyance until 1912, when Reiss and Jungmann[4] described their results in cases of scarlatina gravissima.

Reiss and Jungmann used serum obtained about the end of the third week after the onset, injecting from 50 to 100 c.c. intravenously. Twelve cases are described, all injected not later than the fourth day, and in all there followed a rapid improvement as by crisis within fourteen hours or so, which was in marked contrast to the course in cases not so treated, in which recovery by crisis occurred only occasionally. The serum did not seem to have any effect on secondary infection. In some cases the rash faded away immediately after injection of the serum. Koch[5] reports on twenty-eight additional cases, treated with convalescent serum in the same hospital. Only one death occurred, and in that case the patient was moribund when admitted. Koch emphasizes that in this series of extremely severe, toxic scarlatina, hemorrhagic nephritis did not develop, that the improvement in many cases was as striking as that seen in diphtheria after injection of antitoxic serum, and that the serum must be injected intravenously in quantities not less than from 50 to 100 c.c. even in small children, and not later than the third day. Koch also reports good effects in twelve cases injected intravenously with normal human serum, and Rowe[6] was unable to convince himself that there were any different effects in cases treated with normal and with convalescent serum. Koch, however, states that the superiority of convalescent serum is seen clearly in the very severely toxic cases with coma and cool and bluish skin. In order to secure the best effects, the mixed serum from several convalescents is used after it has been stored for some time. The serum should be obtained about twenty-one days or thereabouts after the onset. The most rigid tests must be used to determine freedom from tuberculosis and syphilis on the part of the donors, and the sterility of the serum established by cultural methods.

2. Huber and Blumenthal: Berl. klin. Wchnschr., 1897, xxxiv, 671.
3. Von Leyden: Deutsch. Arch. f. klin. Med., 1902, lxxiii, 616.
4. Reiss and Jungmann: Deutsch. Arch. f. klin. Med., 1912, cxii, 70.
5. Koch: München. med. Wchnschr., 1913, lx, 2611; Deutsch. med. Wchnschr., 1915, xli, 372.
6. Rowe: Med. Klin., 1913, ix, 1978.

In hospitals for scarlet fever there need be no difficulty in having on hand suitable serum from convalescents. Koch suggests that such serum be reserved for the gravest cases, and that otherwise normal serum be used. As yet no explanation is offered of the alleged benefits of normal serum. Schultz[7] believes he has shown that the effect does not depend on lipoids that are extracted in the cold.

Netter[8] recently has used the serum of persons who had had poliomyelitis in the treatment of the acute attack, giving the serum intraspinally in small doses repeated daily. He says the results were good.

If we ask what we can expect from this method of specific treatment, the answer must be that only by continued critical observations can its value be determined. Certainly the results described in the severe toxic forms of scarlet fever fully warrant extended trial under suitable conditions, and that would mean in hospitals where convalescent serum can be kept on hand in such mixtures as are most likely to insure some specific antiscarlatinal virtues. Where such serum is not obtainable, there certainly is no reason why sterile, nontoxic, normal human serum may not be tried in severe and desperate cases.

7. Schultz: Deutsch. Arch. f. klin. Med., 1914, cxv, 627.
8. Netter: Bull. de l'Acad. d. méd., 1914, lxxviii, 523.

THE SIGNIFICANCE OF THE PUPILLARY REACTION TO EPINEPHRIN

When a solution of epinephrin is instilled into the conjunctival sac, no noteworthy effect is produced on the pupil of the eye. After complete excision of a superior cervical ganglion of the sympathetic nervous system, however, similar introduction of epinephrin causes a dilatation of the pupil on the operated side. This was demonstrated by Meltzer[1] at the Rockefeller Institute for Medical Research in 1904. The degree of pupillary dilatation depends on the quantity instilled. It can easily be made maximal and may last for some time. The myotic effect of physostigmin is also overcome by instillation of epinephrin.

The dilatation of the pupil is accomplished by the contraction of a muscle, the dilator pupillae, just as the constriction of the pupil is accomplished by the contraction of the constrictor pupillae. These muscles are exact antagonists. When one is contracted the other is relaxed; and it seems to be an established conclusion that the relaxation is an active one, so that the changes noted at any time can take place promptly, rather than gradually. According to Meltzer's view, the normal effect of the superior cervical ganglion is

1. Meltzer, S. J., and Auer, Clara Meltzer: Studies on the "Paradoxical" Pupil-Dilatation caused by Adrenalin, I, The Effect of Subcutaneous Injections and Instillations of Adrenalin upon the Pupils of Rabbits, Am. Jour. Physiol., 1904, xi, 28; II, On the Influence of Subcutaneous Injections of Adrenalin upon the Eyes of Cats after Removal of the Superior Cervical Ganglion, ibid., p. 37; III, A Discussion of the Nature of the Paradoxical Pupil-Dilatation Caused by Adrenalin, ibid., p. 40.

to inhibit the dilator and to stimulate the constrictor, and the effect of suprarenal extract is just the reverse of it, that is, to excite the dilator and inhibit the constrictor. Epinephrin can, therefore, show its proper effect only after the antagonistic activity of the ganglion is removed.

We have reviewed these physiologic investigations in some detail in order to afford an interpretation of the observation made by Loewi,[2] in 1908, that instillations of epinephrin produce dilatation of the pupils in animals after excision of the pancreas also. Loewi based an explanation of this mydriasis on the facts already cited. He assumed that the pancreas exerts an inhibitory influence on the sympathetic system, so that the removal of the gland would bring about a situation comparable to that noted after extirpation of the cervical ganglion. After either procedure the introduction of epinephrin into the conjunctival sac can induce mydriasis. Loewi attempted a practical application of these phenomena by examining the pupillary responses of persons suffering from various diseases, particularly diabetes. The discovery of positive mydriatic reactions after epinephrin instillations in several of these cases suggested this as an indicator of pancreatic involvement. The reaction has accordingly been proposed as a test for pancreatic disease, and particularly diabetes of pancreatic origin.

It is now reported by Loewy and Rosenberg[3] that the mydriatic reaction of Loewi can be brought about in any condition in which there is an excess of sugar circulating in the blood. Not only can the characteristic pupillary response to epinephrin be produced whenever hyperglycemia results in animals after intravenous infusions or even liberal ingestion of glucose, but it also ensues when the sugar level of the blood is raised by certain drugs. The Loewi phenomenon, therefore, cannot be correlated solely with the pancreas, except on the improbable assumption that this gland becomes involved in every condition of hyperglycemia. The reaction can no longer be regarded as a characteristic test of pancreatic function.

In the hypoglycemia produced by phlorizin, the mydriatic response to epinephrin cannot be obtained, despite the prominence of the resulting glycosuria. Perhaps we may now assume that an excess of sugar in the blood directly affects the sympathetic inhibitory factors. It remains to be determined by clinical studies whether the pupillary reaction can be used to distinguish between true diabetes with an attendant hyperglycemia and the glycosurias of renal origin in which the level of the blood sugar is not raised. The introduction of satisfactory clinical methods of blood analysis has to some degree rendered other procedures superfluous.

2. Loewi, O.: Ueber eine neue Funktion des Pankreas, Arch. exper. Path. u. Pharmakol., 1908, lix, 83.

3. Loewy, A., and Rosenberg, S.: Beitrag zur Entstehungsweise des O. Loewischen Pupillenphänomens, Biochem. Ztschr., 1914, lxvii, 323.

PELLAGRA IN BESSARABIA

In spite of the rather severe criticism to which his work was subjected at the last meeting of the Italian Pellagrologic Congress, Tizzoni apparently has modified but little, if at all, his idea that pellagra is an infectious disease due to the micro-organism which he claims to have isolated from those sick of the disease, and which he has named *Streptobacillus pellagrae* (T). Recently[1] he has reported work done by him during the past year. In addition to his bacteriologic studies, observations on pellagra were made in Bessarabia, Russia. These observations are incomplete, the war having interrupted his work; but in spite of their fragmentary character, they possess interest.

Briefly, he states that pellagra is very prevalent in Bessarabia, and that the disease shows there an intensity unknown in Italy now for many years. In one village of 3,000 population there were over thirty cases. The disease is much more prevalent in northern and central than in southern Bessarabia, but he could see no reason for this geographic restriction. Cases were not uncommon with diminished urinary secretion, bladder irritability, albuminuria and edema of the face. The disease is observed there rather frequently in infancy, sucklings at six to eight months being often stricken.

The hygienic conditions obtaining among the people are bad, the water supply is suspicious, and their food is monotonous in character, none too abundant in quantity, and of poor quality—mainly maize and that of poor grade. Their diet in large part consists of bread made of maize and wheat flour mixed, polenta, and a kind of soup or broth made from maize.

These data from Bessarabia broadly coincide with observations recorded for other places where pellagra prevails, but we also find here, as elsewhere in dealing with this disease, one or two particulars at variance with recorded observations. The prevalence of pellagra in Bessarabia, if we may judge by the one small group of people mentioned by Tizzoni, is less than that reported for some places in the United States. Even in Italy, where the disease seems to have been on the decline for some years now, there are doubtless some places which still exceed this rate. The highest recorded prevalence of pellagra in the United States is perhaps found among the mill village population of South Carolina, approximately 150 per 10,000 of population.[2] The intensity of the disease in Bessarabia would indicate, as Tizzoni appreciates, that its advent there is perhaps more or less recent. The first appearance of pellagra in a population seems often attended by severe manifestations, to be later

1. Tizzoni, G.: Relazione sulla campagna pellagrologica per l'anno 1914, Bologna, 1915. Tizzoni, G., and De Angelis, G.: Significato ed importanza del polimorfismo dello streptobacillus pellagrae (T), Reale Accad. dei Lincei, Series 5, Vol. X, Fasc. XV, 1914.

2. Thompson-McFadden Pellagra Commission, First Progress Report, New York, 1914; Second Progress Report, New York, 1915.

followed by a much milder type of the disease. In a general way, this is the history of pellagra in most places involved. The most obvious interpretation of such a phenomenon would be sought in a kind of acquired racial immunity, but this is not supported by the very evident fact that individual pellagrins apparently develop little immunity to the disease.

The restricted geographic distribution of pellagra in Bessarabia is quite in accord with what has been observed elsewhere. For example, southern and insular Italy have suffered from the disease practically not at all, and in the United States it is very largely confined to the South.

Cases of pellagra with renal involvement are not rare, but such marked evidences of renal inadequacy as Tizzoni reports are not common. The observation of pellagra in infants from 6 to 8 months is a striking thing. Pellagra in infants is by no means unknown, but it is certainly far from common. The frequency of this occurrence in Bessarabia is an epidemiologic observation of importance.

Bad hygienic conditions, and especially poor food have always accompanied pellagra. What factors they play in its etiology remain to be determined.

Much of Tizzoni's work during the year has been devoted to cultural studies of his micro-organism, and he discusses with considerable fulness its rather remarkable polymorphism, the micro-organism assuming numerous forms under changed biologic conditions. Indeed, he thinks he might better call it the pleomorphic streptobacillus of pellagra.

Tizzoni is a pronounced zeist in his views, holding that the infection in pellagra is derived from corn. It is interesting to note, therefore, that he admits in this paper the existence of the disease in persons who do not eat this grain. It is also of interest to note the gravity with which he, and indeed many other Italian scientists, discuss the question of pseudo-pellagra. This conception is largely based on the history of the case with regard to the consumption of maize, and has received scant sympathy among American students.

Tizzoni has studied pellagra for several years, and has written voluminously on his views. His observations remain, however, practically unconfirmed, and, whatever be the individual opinion as to the cause of pellagra, his presentation of the matter is not likely to meet approval in this country. Leaving aside the lack of any confirmation of his work and the very remarkable pleomorphism of the micro-organism he describes, his writings display an effort to create harmony between laboratory results and clinical and epidemiologic facts—harmony too perfect, too beautiful and too soul-satisfying. Such beautiful harmony is rarely realized in actual conditions, and its presence would, in the minds of the wary, be far more likely to produce skepticism than conviction.

One might safely venture the statement that, up to the present, Tizzoni's work has done very little toward giving material help in the solution of the etiology of pellagra. In the present state of our knowledge regarding this perplexing problem, however, we cannot well afford to abandon a safe judicial attitude, and in conformity therewith we cannot entirely neglect Tizzoni's work, however unpromising it may appear.

FACTORS DETERMINING PHAGOCYTOSIS

The mechanism of phagocytosis, that is, the engulfing of bacteria, cells, tissue products, etc., by leukocytes, is usually interpreted in terms of chemotaxis. Substances present in the environment are believed to exercise a sort of directive influence, either attractive or repellant, on the phagocytic cells. Since the stimuli most likely to reach the leukocytes from a foreign agent and bring about an alteration in their movement and performance are chemical in nature, the importance of "chemotaxis" in phagocytosis and leukocytosis is everywhere emphasized.

This familiar attempt at an explanation of the behavior of leukocytes cannot readily be applied to the undeniable phagocytosis of insoluble, chemically inert particles like coal dust or carmin granules. Leukocytes have frequently been seen to enclose these with the same avidity that they engulf bacteria. It has been surmised, without further evidence, that the foreign particles in some way acquire a coating from some component of the solution in which they are suspended, and thus acquire chemotactic properties.

In his early researches on phagocytosis, Metchnikoff interpreted the phagocyte-enhancing power of the medium as a stimulation of the leukocytes. Wright demonstrated that the essential regulating influence affecting phagocytosis rests on the action of the serum on the bacteria, when they are the factors involved. Hektoen and Ruediger[1] have furnished classic evidences of this. They showed that human leukocytes in the presence of normal defibrinated blood will take up bacteria energetically. When the leukocytes, however, are washed free of blood and added to untreated bacteria, phagocytosis is practically nil. If such washed leukocytes are mixed with bacteria that have been previously in contact with serum, active phagocytosis will take place. In other words, the bacteria have been altered by the serum in such a way that they are now amenable to phagocytosis by washed leukocytes. The serum then acts on the bacteria and not on the leukocytes.

These now familiar observations serve to remind us that the conceptions of the mechanism of phagocytosis have been altered with the progress of time. Much remains to be explained, particularly where the

1. Hektoen and Ruediger: Jour. Infect. Dis., 1905, ii, 132.

chemical theories fail. Kite and Wherry[2] have looked in another direction for an answer. They suggest that the amount of adhesion in a mixture of leukocytes, bacteria and unheated serum must depend on the relative stickiness of the bacteria and the leukocytes. In harmony with observations on the adhesive character of the surface of certain amebas, it is now shown that agitation of suitable mixtures of leukocytes and bacteria causes the latter to stick to the blood cells and become rolled into their substance. Experiments with a minimum amount of agitation show that here "phagocytosis" is reduced.

The rôle of the serum, which is so important in all modern chemotactic considerations of phagocytosis, is interpreted in the following way by Kite and Wherry: Foreign particles, such as carbon, are taken up by leukocytes because the latter have sticky surfaces. Bodies similar to many bacteria stick to leukocytes best in the presence of unheated serum because they adsorb something from this medium which makes them more sticky; or they are in some way rendered more sticky, and hence the chances of their adhering to the surfaces of leukocytes are increased. There is evidence that, even in the absence of serum, certain leukocytes are sticky enough to allow some bacteria to adhere. The casual reader will possibly conclude, however, that there is quite as much uncertainty in the physics of stickiness as in the chemistry of chemotaxis.

Current Comment

THE FLY CAMPAIGN IN DETROIT

The injunction to "swat the fly" has become general all over the country. To this in the last few years has been added the additional injunction to swat him early. Spring fly campaigns are now a feature of the public health work in many of our cities. An especially effective popular movement in this direction is now being carried on in Detroit, under the direction of the local board of health. Taking advantage of the human fondness for rivalry and competition, the boys of the different wards and sections of the city are being organized under one chief junior sanitary inspector and twenty-four junior sanitary inspectors. Under each inspector are from five to seven captains. Under each captain are from two to seven lieutenants. This furnishes a force of twenty-four inspectors, 125 captains and 600 lieutenants. Each lieutenant has as many patrolmen as he can enlist. In all, over 1,000 boys are enrolled in this movement. Each of these young health workers is provided with a suitable and imposing badge. Each lieutenant is provided with a map of his district which he returns, showing all manure piles, uncovered garbage receptacles, breeding places for flies and other insanitary conditions in his district. Restaurants, meat markets, milk depots, bakeries, etc., are visited at intervals, and a report is made on all the flies which can be counted in a certain number of minutes. The reports are all tabulated on a large map at headquarters, so that a comparison is always possible between different districts. The conduct of the work and the discipline of the junior force are as far as possible left in the hands of the boys themselves. This movement is an interesting illustration of the growing tendency on the part of health officers to utilize the public and to work along recognized psychologic lines. Probably every boy of from 12 to 16 desires above all things to be a policeman and to wear a badge. If he cannot fight crooks, the next best thing is fighting flies. If the enthusiasm engendered by several generations of "Old Cap. Collier" dime novels can be utilized in fighting flies or, better still, in fighting the filthy conditions under which flies breed, the public health propaganda will have gained a valuable ally.

2. Kite, G. L., and Wherry, W. B.: The Mechanism of Phagocytosis, Jour. Infect. Dis., 1915, xvi, 109.

A COUNTRY EDITOR ON SCHOOL INSPECTION

Manatee, Florida, is a town of less than 1,000 inhabitants, but evidently it has the spirit and progressiveness of some much larger communities. Discussing medical school inspection, the local newspaper, the Manatee *Record*, recently said editorially: "Medical inspection is a business proposition. In a town with 125 children, it is claimed there will be an annual saving of $2,265 if by thorough medical inspection the curable physical defects that handicap schoolchildren could be remedied." The editor of the *Record* has grasped the essential feature and the advantages of medical school inspection. He sees no reason why modern scientific knowledge should not be utilized in administering the public schools in the most economical and efficient manner possible. Why spend the money in a well-nigh hopeless endeavor to teach children with defective eyes and ears, when at a slight expense each child could be put in the best possible condition to receive and profit by instruction? The question is a simple one. Do the taxpayers of a community wish to put their children in good physical condition, in the same way in which they would improve their school grounds, building and equipment, or do they prefer to spend their money on school equipment and leave the child defective and unable to profit by the instruction offered? The editor of the Manatee *Record* is apparently not alarmed by any specious cries of invasion of "personal liberty." In fact, it is difficult to see how the personal liberty of any one is invaded when a child's defective eyes are put into condition whereby he can see the blackboard or read his textbook without discomfort. Children's diseases also are rightly regarded by the editor of the *Record* as wasteful and unnecessary. "More and more the people of the country are realizing that it is not necessary for children to go through a course of measles, whooping cough, mumps and scarlatina. . . . Medical inspection and prompt and firm handling of parents as well as pupils will enable the majority of youngsters to enter and leave the gram-

mar schools without having had to be a nuisance to themselves and their parents and teachers by various spells of preventable diseases." An exchange whereby different educational institutions trade professors temporarily has become a fixed institution in the educational world. What a valuable thing it would be if some of our larger cities could arrange to trade editors with Manatee for a few years. This would be a misfortune for Manatee, but it might be a godsend for some other communities.

THE MILK SUPPLY AND FOOT AND MOUTH DISEASE

It was to be expected that the extensive and serious outbreak of foot and mouth disease, again discovered in this country last October and now apparently well under control, should raise questions respecting its bearing on human health. Although only secondarily and casually a malady of man, the foot and mouth disease seems to reach him in occasional cases in connection with every epizootic. Some authorities believe that its incidence in man is much greater than the statistics indicate, as the milder cases are not seen by physicians. Reports concerning the appearance of the characteristic vesicular eruptions in the mouths of children were received during the 1914 outbreak. Although infection can doubtless occur by the contact of saliva or contents of the vesicles of infected cattle with abrasions of the skin, the commonly assigned mode of transmission to man is through unboiled milk, butter, cheese or other similar dairy products. In the recent outbreak the history of the cases is said to incriminate the milk supply. There is abundant evidence that the infectious agent can be destroyed with comparative ease by heat or the usual germicides. Physicians and health officials will be interested to learn, on the authority of a government publication,[1] that milk pasteurized at a temperature of 60 C. (140 F.) for twenty minutes is safe so far as infection by foot and mouth disease is concerned.

1. Mohler, J. R.: Foot and Mouth Disease, Farmers' Bull. 666, U. S. Dept. Agric., April 22, 1915.

Fatal Poisoning from External Application of Resorcin.—C. Boeck of Christiania makes extensive use of mucilaginous mixtures containing resorcin in the treatment of lupus. He had never had any mishaps with it, even in a strength of 33 per cent. and more, until recently when he applied a 25 per cent. resorcin mixture to the greater part of the calf of a boy of 16. The lad had had lupus since the age of 3 and it had extended until the entire left leg and most of the left arm were involved. Half an hour after the application to the leg, made where the epithelium was intact throughout, the lad became restless and screamed with pain but soon quieted down. An hour and a half after the paste had been applied, he was found unconscious and cyanotic. Convulsions followed and the boy died nine hours after the application, without regaining consciousness. The formula for the paste was 15 parts resorcin; 15 parts talcum, and 30 parts gelatin base. Boeck has found three cases on record of similar toxic action from resorcin, but the two adults recovered. An infant, 11 days old, who had been treated with a 3 per cent. resorcinated petrolatum for pemphigus, died with symptoms of acute poisoning. The syndrome in all was the same as in Boeck's case. His report appears in the *Dermatologische Wochenschrift*, 1915, lx, 449.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARKANSAS

State Board Election.—At the annual meeting of the State Board of Health, held in Little Rock, May 7, Dr. Andrew L. Buckner, Dermott, was elected president and Dr. Charles W. Garrison, Little Rock, secretary.

Personal.—Dr. William S. Stewart, Pine Bluff, secretary of the State Board of Medical Examiners, is reported to be critically ill with disease of the kidney at St. Joseph's Infirmary, Hot Springs.——Dr. John C. Davis, Harrisburg, has succeeded Dr. George B. Fletcher, Little Rock, as a member of the staff of the State Hospital for Nervous Diseases, Little Rock.

State Board Changes.—The governor has appointed Drs. Wells F. Smith, Little Rock; and Julius A. Bogart, Forrest City, members of the State Board of Medical Examiners, and has reappointed Dr. F. T. Isbell, Horatio, to the board. The governor has appointed Dr. St. Cloud Cooper, Fort Smith, a member of the State Board of Nurse Examiners. ——J. B. Pond, Little Rock, has retired after twenty years of active service as president of the State Board of Pharmacists.

State Society Meeting.—The thirty-ninth annual meeting of the Arkansas Medical Society was held in Little Rock May 4 to 6, under the presidency of Dr. St. Cloud Cooper, Fort Smith. Dr. James C. Walles, Arkadelphia, was elected president; Dr. Clinton P. Meriwether, Little Rock, was reelected secretary, and Dr. William R. Bathurst, Little Rock, was reelected treasurer and editor of the *Journal of the Arkansas Medical Society*. Texarkana was selected as the place of meeting for 1916.

CALIFORNIA

Health Statistician Resigns.—Lewis Lee Loyle, deputy statistician of the State Board of Health, has resigned to take effect August 1.

Personal.—Dr. Stella M. Clarke, Los Angeles, has recovered after a long illness, and is on duty as house surgeon in the Hospital of the Good Samaritan, Los Angeles.——Dr. Shadworth O. Beasley, San Francisco, has been appointed assistant surgeon to the American Red Cross and has been assigned to duty in Belgrade, Serbia. He sailed from New York, May 1.——Dr. Ferdinand Stabel, Redding, who was attacked by a rabid dog, April 29, and started taking the Pasteur treatment in San Francisco two weeks later, is reported to be suffering from paralysis.——Dr. Jacob H. Parsegan, San Francisco, has returned after a visit of several months to Armenia.

Irregular Practitioners Convicted.—T. J. Pierce, San Francisco, is said to have plead guilty in the United States court to the charge of using the mails to advertise prohibited articles. He had conducted what is known as the Ramond Remedy Company in San Francisco. He was under investigation by the Board of Medical Examiners of the State of California and was convicted by that board, March 18, 1914. May 12, he was sentenced to imprisonment for six months in the county jail.——A jury in the United States court, San Francisco, is said to have brought in a verdict of guilty, May 7, in the case of Dr. Homer C. Edwards and Donald Harris, a student of medicine, on three counts of the joint indictment for fraudulent use of the mails. The jury recommended clemency in the case of Harris.

Appointments in Stanford Medical School.—The following appointments and promotions in the Stanford University Medical School are announced for the year 1915-1916: Dr. Charles Hervey Bailey, New York City, assistant professor of pathology; Dr. Henry Augustus Stephenson, Baltimore, assistant professor of obstetrics and gynecology; Dr. George de Forest Barnett, San Francisco, instructor in medicine; Dr. Jean Redman Oliver, San Francisco, instructor in pathology; Dr. George D. Lyman, San Francisco, clinical instructor in pediatrics; Dr. Shadworth Oldham Beasley, San Francisco, clinical instructor in obstetrics and gynecology; and Dr. Hans Barkan, San Francisco, clinical instructor in

surgery, assigned to ophthalmology; Dr. Howard Y. McNaught, San Francisco, clinical instructor in surgery, assigned to otology, rhinology and laryngology.

First-Aid Demonstration at Exposition.—The third annual joint field meet of the United States Bureau of Mines, the American Mine Safety Association and the California Metal Producers' Association will be held at the Panama-Pacific Exposition, September 23 and 24. The joint meet either precedes or follows the annual meetings of a number of institutions allied to the mining interests, such as the American Institute of Mining Engineers, September 17 and 18; the International Engineering Congress, September 20 to 25; the American Mining Congress, September 20 to 22; the California State Mine Rescue and First Aid Contest, September 22, and the National Safety Conference, under the joint auspices of the National Safety Council and the California Industrial Accidents Commission, September 27 to 30. On September 23, on the athletic field of the exposition grounds, there will be a mine-rescue demonstration at 10 o'clock; at 2 o'clock in the afternoon there will be a first-aid demonstration, and at 4 o'clock a demonstration of the explosibility of coal dust. On September 24, at 10 o'clock, will be held a first-aid contest for interstate supremacy; at 2 in the afternoon a rescue contest for interstate supremacy; at 4 in the afternoon a rock-drilling contest, and at 8 o'clock in the evening there will be an award of prizes and souvenirs at the Convention Hall. Many well-known mining men and physicians have been assigned to the various committees to have charge of and to judge the field contests.

CONNECTICUT

Personal.—Dr. J. Francis Calef, Middletown, has been elected president of the New England Confederation of Examining Boards.——Frank J. Born, for nine years medical examiner for the Yale University Gymnasium and Athletic Association, has resigned to become dean of the normal school of physical education, Battle Creek, Mich.

State Society Election.—The one hundred and twenty-third annual meeting of the Connecticut State Medical Society was held in Hartford, May 19 and 20, and the following officers were elected: president, Dr. Max Mailhouse, New Haven; vice presidents, Drs. Charles B. Graves, New London, and Cushman A. Sears, New London; secretary, Dr. Marvin M. Scarbrough, New Haven (reelected); and treasurer, Dr. Joseph H. Townsend, New Haven (reelected). On the evening of May 20, the memorial dinner for the late Dr. Oliver C. Smith, Hartford, president of the society, was held at the Hartford Club. Dr. Edward T. Bradstreet, Meriden, made the memorial address.

FLORIDA

Sanatoriums Opened.—The new sanatorium, Jacksonville, was formally opened, May 18.——The new Sunnybrook Sanatorium on Miami Avenue, Miami, was opened for inspection, May 17.

State Association Meeting.—The Florida State Medical Association held its forty-second annual meeting in De Land, May 12 to 14, under the presidency of Dr. F. Clifton Moor, Tallahassee, and the following officers were elected: president, Dr. Robert H. McGinnis, Jacksonville; vice presidents, Drs. William R. Stephens, De Land; Mary Freeman, Perrine, and Joseph H. Coffee, Fort Meade. Arcadia was selected as the next place of meeting.

Health Bills Passed.—The State Board of Health bills, Nos. 135, 136 and 171, which had already been passed by the house, were adopted by the senate, May 7. Of these bills, the first provides for screens on service closets, fruit and vegetables exposed for sale, meats and other eatables. The second requires all school buildings to be provided with adequate facilities by water carriage of service closets, properly screened and fly proofed. The last bill provides for the State Board of Health Exhibit Train and places this exhibit at the disposal of the state for educational purposes.

Personal.—The garage of Dr. Robert L. Bryans, Pensacola, containing two automobiles, was destroyed by fire, May 16. ——A banquet was given by the Hillsboro County Medical Society at Tampa, April 22, in honor of Dr. Louis A. Bize, Tampa, who has retired from the practice of medicine to become president of the Citizens' Bank and Trust Company. Dr. Thomas Truelsen, Jr., acted as toastmaster.——A touring car containing Dr. Otis H. Johnson and his wife and two children, Jacksonville, plunged overboard from a ferry boat, May 9, and Dr. Johnson was the only one of the family saved.

ILLINOIS

Montgomery in Springfield.—Dr. Edward E. Montgomery, Philadelphia, was one of the guests of honor at the meeting of the Illinois State Medical Society and held a clinic in St. John's Hospital, Springfield, May 18.

Personal.—Dr. David S. Ray, mayor of Cuba, started May 19 on a trip to the Canal Zone.——Dr. James L. Reat, Tuscola, was thrown from his buggy, May 13, and painfully injured.——Dr. Jesse P. Simpson, Palmer, was painfully injured when an axle of his automobile broke near Palmer, May 13, overturning the car.

State Pays Claims for Stock.—The senate, on May 7, passed the bill appropriating about $1,000,000 to cover the state's half of the loss of cattle due to the foot and mouth epidemic. The bill was signed by the governor, May 12, and vouchers are now being mailed to each owner of cattle killed on account of the prevalence of the disease.

Hospital News.—The new amusement hall erected on the grounds of the Peoria State Hospital was formally dedicated, May 20. The new building is to be used for the recreation of patients, moving-picture shows, dances, etc.——Dr. Joseph B. Holmes, Macomb, announces that he will enlarge the Annex Hospital, will change its name to the Holmes Hospital and will devote his entire attention to the institution.—— Plans are being prepared for the new building for the Maplewood Sanitarium, Jacksonville, to be erected this summer by Dr. Frank P. Norbury and Dr. Albert H. Dollear. The new building will accommodate fifty patients.

State Board Indorses Criticism.—In reply to the criticism made by the Federal authorities of the health laws of the state, the State Board of Health has issued a statement that in practically every detail it agrees with the criticism; that the report supports and corroborates the statement made by the board to the governor and its recommendation to the state efficiency and economy commission in September, 1914. The board agrees that reorganization is necessary; that medical registration functions be divorced from purely public health work and that all state agencies having to do with public health be brought together in one department.

Chicago

Fly Week.—By authorization of the mayor, the week of June 7 to 12 is proclaimed as Fly Week, and during this time every means will be used for the abolition of the fly pest. A special poster calling attention to the crusade has been prepared.

Prevention of Rabies.—The Chicago Medical Society, at its meeting May 26, devoted its entire meeting to a discussion of hydrophobia. The protective measures which the society demands are, that all homeless or ownerless dogs be destroyed; that each dog owner be compelled to register his animal, the penalty being death of the animal; that the city start a registration fee sufficient to pay for veterinary examination before issue of license, and that a year-round muzzling ordinance be passed and enforced.

INDIANA

The New Department of Tuberculosis.—Dr. John N. Hurty, Indianapolis, secretary of the Indiana State Board of Health, announced the appointment of Mr. Walter D. Thurber as deputy state health commissioner in charge of the new department of tuberculosis created by the last legislature. Mr. Thurber is now serving his third year as executive secretary of the Indiana Society for the Study and Prevention of Tuberculosis.

Personal.—Dr. John N. Taylor and wife, Crawfordsville, were seriously injured when their automobile crashed into a telephone pole near Warsaw.——Dr. John N. Hurty, health officer of Indiana, has been elected president of the Indianapolis Literary Club.—Dr. Clint C. Sourwine, Brazil, underwent a third operation for septicemia, May 15.——Dr. Boston H. B. Grayston, Huntington, was operated on for appendicitis at the Huntington Hospital, May 12.——Dr. William T. Ferguson, Fort Wayne, suffered amputation of his left leg below the knee on account of gangrene, May 12. ——Dr. Daniel S. Quickel, Anderson, while chopping wood, was struck in the eye by a piece of wood. The injury is said to be serious.——Dr. Edward P. Busse, Madison, formerly secretary of the Southwestern Indiana Insane Hospital, Madison, has opened a private hospital for the treatment of mental diseases at his old home in Evansville.—— Dr. William A. Hollis, Hartford City, who has been ill with colon bacillus infection, is reported to be improving.

LOUISIANA

Freight Inspection Withdrawn.—Surg. Richard H. Creel, U. S. P. H. S., on duty at New Orleans, has ordered the discontinuance of the inspection of outgoing freight cars, which was inaugurated last summer during the active campaign against the bubonic plague.

Personal.—Dr. William T. O'Reilly has been elected president, and Dr. Sara T. Mayo, secretary, of the Sickles Board Fund.——The Italians of New Orleans gave a banquet in honor of Dr. Joseph A. Danna, May 8, in recognition of the work he has done in behalf of the poor of the city. At the banquet Chevalier Carlo di Papini, Italian vice consul, presented Dr. Danna with the decoration of Knight of the Crown of Italy.

Promotion of Mental Hygiene.—The first steps toward the organization of the Louisiana Society for the Promotion of Mental Hygiene were taken May 6, at a public conference in New Orleans, at which Clifford W. Beers explained the organization in other cities. Charles F. Fletchinger was elected temporary president and Dr. Maud Loeber, New Orleans, temporary secretary. The new organization is to be known as the Louisiana Society for Mental Hygiene.

Parish Society Condemns Nostrums.—The Vermilion Parish Medical Society, at its meeting May 20, adopted resolutions setting forth the evil of "patent medicines"; that these nostrums are pernicious and baneful; that benefits accruing from their sale are derived daily from the poor and unfortunate; that the society is in full sympathy with the efforts of the government in its attempts to expose the deception practiced in the manufacture, advertising and sale of the so-called remedies, such as wine of cardui, swamp root, syrup of figs, mothers' friend, vitalitas and the like, and is in hearty sympathy with the activities of the State Board of Health of Louisiana in its attack on these preparations and with its regulations requiring the printing of contents on the label; approving the campaign now in progress and pledging the earnest and active support of the society to their efforts toward the control and eventually the elimination of this evil.

MARYLAND

Psychopathic Building Opening.—The John Hubner Psychopathic Building at the Springfield State Hospital, Sykesville, will be formally opened on June 9. The speakers will be Governor Goldsborough and Drs. E. E. Southard of Boston, Hugh H. Young, Baltimore, president of the State Lunacy Commission, Henry M. Hurd and Edward N. Brush, Towson.

Polyglot Health Rules.—The health commissioner of Baltimore has had a pamphlet printed in English, Bohemian, Italian and Yiddish, of which ten thousand copies are to be distributed. This pamphlet teaches how to destroy flies and mosquitoes and tells tenants how to keep their premises in a clean and sanitary condition. The Poles of Baltimore have asked the commissioner of health to have this pamphlet translated into Polish.

Personal.—Dr. Arthur M. Shipley has been appointed acting dean of the medical school of the University of Maryland to fill the vacancy due to the death of Dr. R. Dorsey Coale.——Dr. Thomas S. Cullen, Baltimore, was operated on by Dr. John M. T. Finney, at Johns Hopkins Hospital, recently, for the removal of gallstones.——Dr. Alfred Whitehead, Baltimore, is under treatment at Johns Hopkins Hospital.——Dr. Richard H. Smith has been elected vice president of the board of directors of the Havre De Grace Hospital.——Assistant Surgeon-General Henry R. Carter, U. S. P. H. S., in charge of the United States Marine Hospital, Baltimore, who was operated on a short time ago, is reported to be convalescent.

Health Association for Colored People Organized.—The committee on public instruction of the Medical and Chirurgical Faculty of Maryland held a conference in Cambridge, May 17 to 19, under the auspices of the Dorchester County Sanitation League, and health officials in the campaign against the fly and mosquito and also to organize a colored county health association.——A colored health association which was recently organized in Annapolis, held its first public meeting, May 27, at which Dr. John S. Fulton, secretary of the State Board of Health; Mason Hawkins, principal of the colored high school of Baltimore, and president of the state colored association, Dr. Henry S. McCard, Baltimore; and Dr. Samuel J. Fort, secretary of the committee on public instruction, were the chief speakers. The subject for the evening was "The Relation of Tuberculosis and Typhoid Fever to the Colored Race."

MASSACHUSETTS

Industrial Accident Board.—The membership of the advisory committee of the Massachusetts Industrial Accident Board is as follows: Drs. Frederic J. Cotton, Boston; Francis W. Anthony, Haverhill; Samuel E. Fletcher, Chicopee; Samuel H. Calderwood, Roxbury; Francis D. Donoghue, Boston; Frank E. Allard, Boston; William H. Ruddick, Boston, and Walter P. Bowers, Clinton. Dr. Francis D. Donoghue has been selected by the board as its medical adviser.

Hospital Notes.—The establishment of a dispensary for tuberculosis has been delegated by the department of public health and charities at Lawrence, to the Antituberculosis League, Lawrence, and the dispensary will be open daily from 2 to 5, excepting on Wednesdays, when the hours are from 9 to 11 a. m., and also Thursday evenings, from 6:30 to 7:30. Dr. D. B. Sargent is medical adviser of the institution.——A series of receptions were held at the Lawrence General Hospital on May 18 to 20, when the entire plant, including the new children's ward and nurses' home, was opened for inspection.

State Society Meeting.—The one hundred and thirty-fourth annual meeting of the Massachusetts Medical Society will be held in Boston, June 8 and 9, under the presidency of Dr. Charles F. Withington, Boston. The annual dinner will be held at the Copley Plaza Hotel. On the first morning clinics and demonstrations will be held at the various hospitals. In the afternoon various sections will meet and in the evening the Shattuck lecture will be delivered by Dr. Joel E. Goldthwait, Boston, followed by the president's reception. On the second morning the informal exercises will take place. At noon the annual discourse will be delivered by Dr. Everett A. Bates, Springfield, whose topic will be "Some Perplexities in Modern Medicine," and in the afternoon there will be a joint meeting of sections with a symposium on Empyema. The annual dinner will be served on Wednesday evening at 7 o'clock.

MISSOURI

Missouri Declares Quarantine.—A provisional quarantine against all live stock from the states of Arizona, California, Nevada, Oregon, Utah and Washington was declared by the Missouri State Board of Agriculture, May 21.

Expedition to Honduras.—The St. Louis University will send an expedition to British Honduras this summer for the study of biology and preventive medicine with the object of establishing a permanent station for work in these specialties.

Dinner to Dr. Loeb.—A testimonial dinner was tendered to Dr. Leo Loeb at the University Club, St. Louis, May 25, by members of the medical profession of St. Louis, the scientific faculties of Washington University and St. Louis University and members of the Biological Society of St. Louis. Among the speakers were Profs. Robert J. Terry of Washington University, Ralph L. Thompson of St. Louis University, Augustus G. Pohlman and Walter E. Garrey; Dr. George Gellhorn and Messrs. Edwin Mallinckrodt, Jr., and Regis Chauvenet.

New Hospitals.—Dr. Halsey M. Lyle announces the opening of a hospital in Kansas City for the treatment of skin diseases and cancer.——Dr. Walter E. Cary has opened a hospital in Kansas City for the treatment of nervous and mental diseases.——The new Muncipal Tuberculosis Hospital, Kansas City, at the Leeds Farm, is approaching completion and will be ready to receive patients in about sixty days. The building has cost $150,000 and will accommodate about 150 patients.——An eye, ear, nose and throat clinic has been established by Father Dempsey at his day nursery, 1209 N. Sixth Street, St. Louis. The clinic is open on Saturdays and Mondays from 3 to 5 p. m.

Personal.—Dr. Carlos C. English, resident physician at the State Sanatorium for Tuberculosis, Mount Vernon, has been appointed superintendent succeeding Dr. Bondurant Hughes, resigned.——Dr. James Stewart, superintendent of hygiene of the public schools of St. Louis, has recovered after a surgical operation.——Dr. Horace T. Price has been appointed medical examiner of the Efficiency Board of St. Louis.——Dr. Hasbrouck De Lamater, until recently assistant health commissioner of Kansas City, has entered private practice.——Dr. Max C. Starkloff has been reappointed health commissioner of St. Louis.——Dr. Moyer S. Fleisher, who has been assistant in the department of pathology of the St. Louis Barnard Free Skin and Cancer Hospital, has been appointed assistant professor of bacteriology in the St. Louis University School of Medicine.

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NEW YORK

Tribute to Anatomist.—The 1915 *Skull*, the annual of the student body of Albany Medical College, is dedicated to Dr. Joseph Davis Craig, for thirty years professor of anatomy in the college.

Addition to Hospital.—The State of New York has recently commenced the erection of a $10,000 addition to the present General Hospital erected at a cost of $15,000 at the State Agricultural and Industrial School, Industry. This addition is required to enable the school physician properly to care for the health and correction of physical defects in the 700 or more inmates of the institution.

Health Department and Occupational Diseases.—The Health Department has organized an Occupational Clinic at 49 Lafayette Street and in connection with the work of the clinic has prepared a clinical history card, which is of interest and may help to indicate lines along which investigation may yield clinical results. It is the belief of those interested in this subject that if some of the data included on this card were asked in the course of clinical examinations conducted in dispensaries, hospitals and in private practice, a number of obscure diseases whose causes lie in the occupation of the individual, would be brought to light. A factory survey card which a medical inspector fills out prior to the examination of a given group of working people in any particular factory is also used in connection with the data of the clinical history card of the Occupational Clinic, and together they give a comprehensive picture to the examiners at the Occupational Clinic of the various factors which operate to produce occupational diseases or to lower health.

New York City

Physician Leaves Large Estate.—The late Dr. Everett Herrick, who died April 1, 1914, left an estate of $1,335,458.

Sails to Head Field Hospital.—Dr. Berkeley Sherwood-Dunn, physician and banker, sailed May 15 for France, where he will take command of a field hospital.

Beriberi Near New York.—A wireless message received May 26 by Health Officer O'Connell, states that the British steamer *Dewa* from Cienfuegos, Cuba, for New York, has twenty-five cases of beriberi among its crew of forty men, and that eight men have died from the disease since the vessel sailed.

The Arbuckle Memorial.—The north wing of the Long Island College Hospital, presented to the hospital in memory of John Arbuckle by his two sisters, was opened on May 24. It will house 171 male patients, and contains, besides the wards and private rooms, a clinical laboratory for 45 medical students and three research laboratories for the use of clinical research workers.

Dinner to Dr. Fuhs.—A farewell dinner was given to Dr. Jacob Fuhs by the visiting and assistant visiting staffs and the Alumni Association of St. Catherine's Hospital, Brooklyn. The occasion of the dinner was the resignation of Dr. Fuhs, after forty years of service as visiting physician to the hospital. Dr. Mathias Figueira presided as chairman. A set of resolutions laudatory of Dr. Fuhs was adopted and a copy bound in seal leather was presented to him.

Port Health Officer Opposes Federal Jurisdiction.—Dr. Joseph J. O'Connell, health officer of the port of New York, opposes the suggestion that his department be placed under federal control for the sake of economy. Dr. O'Connell claims that this change will impose a greater financial burden on the state than that entailed under the present plan of state control. At present the state pays 20 per cent. of the maintenance cost of this department. Under federal control, he claims, this amount would be increased to 27, or even 30 per cent.

New Diphtheria Hospital.—Bids for the construction of a new diphtheria hospital, Brooklyn, were advertised, May 22. The new hospital will be under the direction of the department of health and will be one of a group of buildings on Kingston Avenue, devoted to the treatment of communicable diseases. The building will be three stories in height, the central portion, 50 by 44, with a wing on either side, 58 by 28. The building will be fireproof throughout and will accommodate eighty patients under normal conditions. It will cost about $100,000.

Opportunity to Study Occupational Diseases.—The health department announces that it desires to secure the assistance of competent clinical workers for its occupational clinic. In the budget a request will be made for a number of positions for clinic physicians at $300 per annum. The hours of work will be two and one-half hours three times a week. This will offer an unusual opportunity to do research work in the study of occupational diseases which, it is predicted, will in a short time assume a most important rôle in preventive medicine.

Survey of Disease Clinics.—The social hygiene division of the Charities and Correction Conference, at a meeting, May 17, presented the following report: Of twenty-seven venereal disease clinics in New York City, only seven have complied with the recommendations of the Associated Out-Patients' Clinics. The insanitary condition of the clinics must be improved and common standards for discharging patients must be followed. The remedies proposed include wider publicity of recommendations and better cooperation between dispensary authorities and clinic chiefs. Knowledge of conditions existing and the results accomplished is essential to the intelligent direction of a clinic. In the four venereal disease clinics studied this information had never been recorded. It was obtainable, though with great difficulty, in only two. Three-fourths of the patients "ceased treatment unimproved." One-half of the patients made too few visits to hope to be cured. Much of the time and money expended on these was wasted. The remedies proposed are: (1) Determine how much time and money is wasted; (2) get the patients to come back.

NORTH CAROLINA

State Society Meeting.—The Medical Society of the State of North Carolina will hold its annual meeting in Greensboro, June 14 to 17. In connection with this meeting will be held the annual meeting of the State Health Officers' Association.

Antityphoid Campaign.—Wake, Northampton and Edgecomb counties have decided to hold antityphoid immunization campaigns during the summer and have made appropriations for this work. In these campaigns the counties will provide for the local expenses of the dispensaries and the State Board of Health will furnish the antityphoid vaccine and literature, and will direct and assist at various dispensaries.

Convict Camps.—Dr. Watson S. Rankin, Raleigh, secretary of the State Board of Health, has made a report on the condition of the convict camps in Nash County. As the result of his investigation, he recommends that the State Board of Health be directed to make an inspection of the convict camps of ten counties in North Carolina, with the object of improving the sanitary condition in these camps.

Full Appropriation for Hospital.—After a conference between the governor, council of the state, legislative finance committee and directors of the Webster Hospital for the Insane, Morgantown, it was decided that the hospital is to have the full appropriation of $200,000 for maintenance, without regard to the apparently mythical accumulated balance of $76,000 which the legislative finance committee declared the institution to have.

Hospital News.—At a meeting of the Negro Medical and Pharmaceutical Association of Guilford County, held at High Point, May 10, a resolution was adopted that the association establish a hospital for the care of colored people of Guilford County, to be located at Greensboro.——The Charlotte Sanatorium Company has been incorporated by Dr. Robert L. Gibbon, Charlotte, and others, with a capital stock of $125,000, to run and operate the Charlotte Sanatorium.

Decision of Supreme Court on Practicing Without License by Nondrug-Giving Physician.—An individual calling himself Dr. Siler was engaged in Greensboro, N. C., in the practice of "chiropractic and suggestotherapy." He was indicted for practicing without license, and on a special verdict the trial judge found him not guilty, and the ruling of the lower court was appealed to the supreme court for final action. Chief Justice Clark, in the decision, held that the act of 1913 amending the act of 1907 requires that all nondrug-giving physicians shall be licensed by the nondrug board before engaging in the practice of their profession. In the case in question it appeared that "Dr. Siler" was not, according to his contention, practicing osteopathy, but was engaged in the "practice of chiropractic and suggestotherapy" and received compensation therefor. Chiropractic, it was submitted to the court, "is a system of treating human diseases without the use of drugs by mental suggestion," and it was admitted that the defendant had not been licensed by the osteopathic board. The defense contended that the act of 1907, as amended by that of 1913, does not require nondrug-giving practitioners, other than osteopaths, to pass

examinations or take out license, and that if it did, such requirement would be unconstitutional. The court opinion, after reviewing the law applicable, says the act of 1913 simply extends the act of 1907 to require "the examination and licensing of all other nondrug-giving practitioners, by whatever name known," and makes those violating this statute "guilty of a misdemeanor to the same extent as those who practiced as osteopaths without complying with the requirements of the act of 1907." The chief justice ruled that the law of 1907, as amended in 1913, was for the protection of the public by requiring all nondrug-giving physicians to be regularly licensed, and that on the special verdict the court should have found the defendant guilty. This decision sets at rest a question that has been considered at different times in the state, at least by implication, and definitely adjudges the province of the State Board of Medical Examiners to be to examine and license physicians who give drugs, while it positively rules that all nondrug-giving physicians, of whatsoever name, shall be examined and licensed by the State Board of Examiners of Osteopathy.

PENNSYLVANIA

Personal.—Dr. Calvin L. Johnstonbaugh, Bethlehem, has been reappointed a member of the Board of Medical Education and Licensure.——Dr. Daniel R. McCormick, Lancaster, suffered a cerebral hemorrhage, May 21.——Dr. P. Joseph Faughnan, Locust Gap, was operated on at the Shamokin Hospital, recently, for strangulated hernia.——Dr. James Burns Amberson, Waynesboro, was given a silver loving-cup by the members of the Waynesboro Academy of Medicine, May 15, in honor of his seventieth birthday.——Dr. William F. Muhlenberg of Reading has been chosen president by the executive committee of the Pennsylvania German Society.——Dr. Edwin S. Dorworth, Bellefonte, who recently completed fifty years of practice of medicine in Center County, and also celebrated his eighty-first birthday anniversary, was accorded an informal reception and dinner by the Center County Medical Society.

Philadelphia

Club Reception.—The Medical Club of Philadelphia will give a reception in honor of Rear Admiral William S. Benson, U. S. Navy, at the Bellevue Stratford, June 11.

Graduating Exercises.—The sixty-third annual commencement exercises of the Woman's Medical College of Pennsylvania were held in the Garrick Theater, June 2, at 11 o'clock. The address was delivered by Dr. Richard C. Cabot, Boston. In the evening, a reception was given by the corporators and faculty in honor of the graduating class.——The sixty-third annual commencement of Jefferson Medical College will be held at the Academy of Music, June 5, and Dr. Victor C. Vaughan of the University of Michigan medical faculty will deliver the valedictory, "A Doctor's Ideals."

In Spite of Difficulties.—James Keith of Shafferstown, Pa., a student at Jefferson Medical College, who was taken to the Jefferson Hospital in April, 1914, with his back broken as a result of a fall from the window of a fraternity house, and who has since had one leg amputated, has successfully passed his final senior examinations, and will receive the medical diploma.

Appeal for Free Bed.—The Alumni Association of Jefferson Medical College makes another appeal for contributions to the endowment fund for the establishment of a free bed in Jefferson Hospital for the care of poor graduates. At the present time about $1,700 has been contributed. The past year's experience has taught that many men are in need and a room of this kind is a necessity.

Personal.—Dr. R. Tait McKenzie, director of the department of physical education at the University of Pennsylvania, sailed, May 29, for London, where he is to aid in "hardening up" British recruits. He will take charge of the new physical department established by the British government, will be posted outside of London with a staff of experts, and will look after the physical conditions of the men who are preparing to go to the front. It is reported that Dr. McKenzie has been granted a year's leave of absence from the university.——Howard B. Lewis, Ph.D., instructor in physiologic chemistry of the University of Pennsylvania, has been appointed to an associate professorship by the trustees of the University of Illinois.——Dr. Barton K. Thomas was operated on for tumor of the abdominal wall at Jefferson Hospital, May 17, and is reported to be doing well.——Dr. Joseph Pasceri has been called to the colors by the Italian consul.

Against Insanitary Barbers.—A campaign of education of the public against insanitary barbers has been started in Philadelphia. Bulletins on the subject were sent out, May 24, by the Department of Public Health. The public is warned not to employ barbers suffering from infectious diseases, and is told that boils, erysipelas, ringworm, barber's itch, conjunctivitis and virulent ophthalmia may be transmitted by uncleanliness. For the barber's observance, the department urges rules which call for the sterilization of hairbrushes and combs by formaldehyd, and the sterilization of razors, shears, clippers and tweezers by immersion in boiling water or wiping with cotton moistened in acetone-alcohol or hydrogen peroxid. Individual towels should be used instead of powder puffs, sponges and finger bowls. The common cosmetic stick should be avoided. Bleeding should be stopped by applying cotton which has been dipped into a solution of epinephrin chlorid to the wound.

SOUTH DAKOTA

State Society Meeting.—The thirty-fourth annual meeting of the South Dakota State Medical Association was held in Sioux Falls, May 18 to 20, under the presidency of Dr. Fred Treon, Chamberlain, whose presidential address was on "Some Practical Considerations in the Diagnosis of Abdominal Conditions." The following officers were elected: president, Dr. James B. Vaughn, Castlewood; vice presidents, Drs. Francis M. Crain, Redfield, and Herman J. G. Koobs, Scotland, the secretary holding over until the next meeting. Dr. Leslie G. Hill, Watertown, was selected as delegate to the American Medical Association. Aberdeen was selected as the place of meeting for 1916.

WEST VIRGINIA

Health Survey Desired.—The Clarksburg Board of Trade has requested the Surgeon-General of the United States Public Health Service to make a field survey on health and sanitation in Harrison County.

Personal.—The residence of Dr. Willis St. Michael, Hendricks, was destroyed by fire to the extent of $1,500, May 14.——Dr. Sylvanus L. S. Spragg, Wheeling, who has been ill with pneumonia, is reported to be convalescent.——Dr. Will S. Keever, Parkersburg, was injured in a railway accident in Baltimore, recently.

Higher Standard Adopted.—The new announcement of the West Virginia University, just received, states that on and after Sept. 1, 1917, two years of collegiate work (sixty-four credit hours), including courses in physics, chemistry, biology and French or German, will be required for admission to the medical school.

State Association Meets in Huntington.—The forty-eighth annual meeting of the West Virginia State Medical Association was held in Huntington, May 12 to 14, under the presidency of Dr. Henry P. Linsz, Wheeling, and the following officers were elected: president, Dr. Arthur P. Butt, Davis; vice presidents, Drs. Albert S. Bosworth, Elkins; George C. Schoolfield, Charleston, and Sidney B. Lawson, Logan; secretary, Dr. J. Howard Anderson, Marytown (reelected); treasurer, Dr. Hugh G. Nicholson, Charleston (reelected); editor of the association magazine, Dr. James R. Bloss, Huntington; and councilors, first district, Drs. James W. McDonald and Henry R. Johnson, both of Fairmont; second district, Dr. Theodore K. Oates, Martinsburg; Hoddie W. Daniels, Elkins; third district, Drs. Chester R. Ogden, Clarksburg, and Morgan T. Morrison, Sutton; fourth district, Drs. Joseph E. Rader, Huntington, and George D. Jeffers, Parkersburg; fifth district, Dr. Wade H. St. Clair, Bluefield, and Elbert F. Peters, Maybeury; and sixth district, Dr. Peter A. Haley, Charleston, and Benjamin B. Wheeler, McKendree. Dr. John L. Dickey, Wheeling, was elected delegate to the American Medical Association, and Dr. Frank LeMoyne Hupp, Wheeling, alternate. Wheeling was selected as the next place of meeting.

CANADA

Gift to Dalhousie.—Investments to the value of $30,000 have been given to Dalhousie University, Halifax, N. S., to go toward the endowment of a chair of anatomy, and announcement has been made that in the near future, the sum will be doubled.

New Quarters for Medical School.—The Faculty of Medicine of Dalhousie University, Halifax, is to be moved this

summer into the large brick and stone building heretofore occupied by the Faculty of Arts and Sciences, and the latter department will move into new buildings which have just been completed.

University of Toronto Base Hospital Arrives in England.—The University of Toronto Base Hospital, under command of Lieut.-Col. James A. Roberts, arrived at Plymouth safely May 27. It is understood that it will proceed to France at once and most likely be located at Dieppe. All the members of the staff were well.

Care of Feebleminded in Ontario.—Mr. Justice Osler, Toronto, and Dr. Helen MacMurchy, Toronto, have been appointed chairman and secretary, respectively, of the newly appointed committee in Toronto, to consider the care of the feebleminded in that city. Dr. MacMurchy represents the Ontario government, and Dr. Charles J. C. O. Hastings, M.O.H., Toronto, has been appointed on the committee to represent the city council.

Western University Convocation.—Convocation was held at the Western University, London, Ont., May 28. Dr. Hugh A. MacCallum, on behalf of the board of governors, announced that Dr. Hibbert W. Hill would return from Minnesota to take up again his office as superintendent of the Hygienic Institute, for whom a worthy successor had been sought but not found. Dr. Hill will remain with the Institute until it has demonstrated its usefulness to western Ontario. Four new professors will be secured for the next college year.

Ontario Government to Donate Hospital for War.—The Ontario government has decided to establish and maintain in England a hospital of 1,000 beds for the treatment of Canadian wounded. The idea is to have ten cottages with 100 beds in each, the cost of construction of which will be about $100,000. The government will also provide immediately six motor ambulances. Sir Adam Beck, who has just returned from England, laid before the government the great need for hospital accommodation. The government has been in communication with Col. George A. S. Ryerson, Toronto, president of the Canadian Red Cross Society. Lieut.-Col. Arthur E. Ross, M.D., M.P.P., Kingston, who is at the front, has advised the government that these ambulances are urgently needed.

Ontario Medical Association.—The annual meetings of the Ontario Medical Association and the Association of Health Officers of Ontario was held in Peterboro, May 25-27. Dr. D. J. Gibbs, Wishart, Toronto, delivered the presidential address, speaking on the part the medical profession had done in Ontario for the war, and instancing the University of Toronto Base Hospital, Queen's Base Hospital, Peterboro Base Hospital of 200 beds, which have been accepted, and the offer of Lambton County for a similar hospital. The main part of his address dealt with specialism in medicine. Dr. Francis J. Shepherd, Montreal, delivered the address in surgery. A resolution was adopted calling on medical men to educate the public in the matter of cancer. Another was adopted pledging members of the profession to preserve the practices of those who had gone abroad to serve their country until their return. The following officers were elected: president, Dr. Harry B. Anderson, Toronto; vice presidents, Drs. George S. Cameron, Peterboro; Edward B. Oliver, Fort William; William Colbeck, Welland; Arthur T. Emmerson, Goderich; general secretary, Dr. F. Arnold Clarkson, Toronto; assistant secretary, Dr. Frederick C. Harrison, Toronto, and treasurer, Dr. Jabez H. Elliott, Toronto.

GENERAL

Santa Fe Surgeons to Meet in San Francisco.—The Santa Fe Medical and Surgical Society announces that it will hold its annual meeting in San Francisco, June 20 to 25.

Anesthetists to Meet.—The third annual meeting of the American Association of Anesthetists will be held in San Francisco, June 21, under the presidency of Dr. Charles K. Teter, Cleveland.

School Hygiene to Meet in San Francisco.—The eighth congress of the American School Hygiene Association will be held in the Civic Auditorium, San Francisco, June 25 and 26, under the presidency of Dr. Henry M. Bracken, St. Paul.

Fraternity Meeting Announced.—The annual convention of the Grand Chapter of the Omega Upsilon Phi will be held in San Francisco, June 25 to 26. Further information regarding this meeting may be obtained from Dr. Calvin A. Walker, 202 Third Street, San Francisco.

Pediatrists Elect Officers.—At the twenty-seventh annual meeting of the American Pediatric Society held at Lakewood, N. J., May 25 to 27, the following officers were elected: president, Dr. Rowland G. Freeman, New York City; vice president, Dr. John C. Gittings, Philadelphia; secretary, Dr. Samuel S. Adams, Washington, D. C. (reelected); treasurer, Dr. Charles Hunter Dunn, Boston, and editor and recorder, Dr. Linnalus E. LaFetra, New York City.

Red Cross Appeals for Mexicans.—The American Red Cross has made an appeal to the American people and has sent a telegram to the governor of each state and a letter to each State Board of Health, conveying the information that there are a large number of unfortunate people in Mexico facing death by starvation, and the president of the United States and the American Red Cross make an appeal for money and food supplies. Gifts of corn, beans, rice and flour will be accepted at any point in the United States and forwarded by the Red Cross to Mexico through the most practicable routes to reach the people in distress. Money may be sent to local Red Cross treasurers or to Red Cross headquarters at Washington. Before donated supplies are sent from any point instructions from Washington will be furnished for routing. The most practicable gateways into Mexico at the present time and under present conditions are Vera Cruz (via Galveston), Brownsville, Laredo, Eagle Pass and El Paso, Texas; and Nogales, Ariz.

Bequests and Donations.—The following bequests and donations have recently been announced:

University and Episcopal hospitals, Philadelphia, each $25,000, contingent bequests, and a direct bequest of $1,000 to the Home for Crippled Children, by the will of Josephine Lewis.

Johns Hopkins University, bonds to the value of $100,000, by an anonymous donor, subject to a life interest.

Medical and Chirurgical Faculty of Maryland, sixty shares of stock in the National Bank of Elkton, Md., by the will of the late Dr. Charles M. Ellis, Elkton.

Boehne Tuberculosis Camp near Evansville, an additional donation of $12,000, by Mr. John W. Boehne.

Daviess County Hospital Association, Washington, Ind., property valued at $8,000, by the will of Mrs. Matilda L. Wilson.

St. Francis' Hospital, Hartford, Conn., nearly $5,000, the proceeds of a play given by local talent.

New York Academy of Medicine, $50,000, one half for the library fund and one half for the permanent fund; New York Skin and Cancer Hospital, $25,000, and Society for the Relief of the Ruptured and Crippled, and Association for Improving the Condition of the Poor, each $10,000 by the will of Dr. Everett Herrick, New York City.

General hospitals of New York City, $58,355; special hospitals, $18,931; hospitals for women and children, $18,749; hospitals for incurables, $13,963; making it altogether $110,000, distributed among the Associated hospitals by the Hospital Saturday and Sunday Association.

White Plains (N. Y.) Hospital; St. Luke's Hospital, New York City; German Hospital and Dispensary, New York, and White Plains Nurses' Association, each $1,000 by the will of Henry Ungrish, Jr.

Dr. William G. Choate, Hot Springs, Ark., $57,000 for the purpose of establishing at that place a hospital for the poor by the will of Patrick Fenton, Knoxville, Tenn.

Pittsfield (Mass.) Antituberculosis Association, $15,000, and House of Mercy Hospital, Pittsfield, $5,000 by the will of Dr. Frederick S. Coolidge.

New York Homeopathic and Flower Hospital, $1,000 for the students endowment fund and $5,000 for the establishment of a bed, by the will of Miss Thena M. Mills.

WAR NOTES

Roumanian Decorations for Behring and Ehrlich.—The *Klinisch-therapeutische Wochenschrift* of May 17 states that the Royal Roumanian cross of the first class for Sanitätsverdienst—which may be translated "for merit in sanitary service"—has been conferred on von Behring and Ehrlich.

Typhus in Turkey.—Dr. Stapleton, writing from Erzeroum, asks urgently for equipment for 200 beds. Typhus fever is reported to be raging in Turkey and is present in epidemic form in Sivas.——In Konia Dr. Dodd has removed its patients to a special building about a mile from the city proper, and has thus been able to prevent the spread of the disease in the hospital.

Red Cross Reenforcements for Austria.—The American Red Cross personnel, which started for Austria, via Genoa, early in May, left Genoa, May 29, for Vienna, by way of Switzerland. The party consisted of Dr. Walpole C. Brewer, Atlanta, Ga., and seventeen nurses. At Vienna the nurses will be divided between the Red Cross hospitals at Vienna and Budapest.

Only Trained Nurses Accepted for German Base Hospitals.—According to a recent regulation of the war department in Germany, only trained nurses are to be accepted for the

Reservelazaretten and volunteer nurses only when they belong to some recognized organization. Under exceptional circumstances the physician in chief is empowered to retain especially efficient nurses.

Russian Women Medical Students Called on for Professional Services in the Field Hospitals.—A German exchange mentions that in Russia the minister for public instruction has notified the medical colleges which have women in their classes that women students who have studied for six semesters or more are liable to be called on for service in the hospitals at the front.

Woman Appointed Army Surgeon.—The wife of the orthopedic surgeon, Professor Helbing of Berlin, is a registered physician and specializes also in orthopedic surgery. She has been for several months at work among the wounded soldiers, and recently she has been given an official position. As our German exchanges remark, Frau Grete Schüler-Helbing is thus the first German *Militärärztin.*

War Notes from The Journal for the Belligerent Countries.—The *Policlinico* of Rome, Italy, publishes a number of "war notes" regarding happenings in the medical world across the border in Austria and Germany, but adds that the information was all derived from THE JOURNAL. It also prints news about its neighbors to the east in Greece and numbers of items of news from France, all taken from THE JOURNAL.

Red Cross Work in Turkey.—The Constantinople Chapter of the American Red Cross has taken charge of the British and French hospitals in that city. In these two hospitals 150 soldiers can be accommodated. The Red Cross has also arranged to take over the American Mission hospitals at Konia, Cesarea, Marsovan, Erzeroum, Sivas, Harpoot, Aintab, Latakia, Adana, Mersin, Mardin, Diarbekir and Van for similar purposes. These will provide accommodations for 1,000 sick and wounded soldiers in fifteen well-manned and equipped hospitals without cost to the government.

District Maternities.—The public hospitals in Berlin are making special provisions for the large number of obstetric cases expected shortly. Bumm suggests the establishing of small maternities, of ten to twenty beds, in the different districts of the city, so that they can be reached easily by the women. The public should be widely informed of the nearest maternities, and some beds should be kept free for each night. The authorities were spurred to action recently when a woman in labor was turned away by the leading public maternity. The socialist newspaper wrote up the case roundly denouncing the Universitäts-Frauenklinik, the institution in question.

Aid for Belgian Physicians.—The report of the treasurer of the committee of American physicians for the aid of the Belgian profession, for the week ending May 29, 1915, lists the following contributions:

Dr. J. E. Talley, Philadelphia, Pa.	$ 10.00
Dr. Leonard W. Ely, Palo Alto, Calif.	5.00
Receipts for the week ending May 29	$ 15.00
Previously reported receipts	6,993.50
Total receipts	$7,008.50
Previously reported disbursements:	
1,625 standard boxes of food at $2.20	$3,575.00
1,274 standard boxes of food at 2.30	2,930.00
213 standard boxes of food at 2.28	485.64
Total disbursements	6,990.84
Balance	$ 17.66

F. F. SIMPSON, M.D., Treasurer,
5 Jenkins Arcade Bldg., Pittsburgh, Pa.

Hygiene and Prophylaxis in the Field.—During the last few weeks, courses of lectures have been delivered at various points in Italy to instruct soldiers in prophylaxis of disease and hygiene at the front in general. For several months series of lectures to prepare medical men for work at the front have been held in some of the large cities. Conferences have also been held under the auspices of local medical societies, as at Ferrara, where special efforts were made to bring up to date the knowledge of the physicians in respect to typhus, epidemic meningitis, tetanus, bayonet wounds, traumatic neuroses, etc. Everywhere physicians have flocked to these conferences. The nonmedical ones were arranged by an organization formed for this purpose, the Associazione nazionale per l'istruzione del soldato e del popolo, and the Comitato nazionale feminile per l'intervento italiano. The date for the final examinations for the medical schools was advanced to bring them mostly into May.

Campaign in France Against Alcohol.—The prefects of police of five departments of Normandie, in northern France, recently summoned a conference to discuss ways and means to restrict the use of liquor, and voted a number of what they state are merely palliative measures until legislative restrictions can be imposed. For the latter they urge that the sale of spirits be suppressed entirely during the course of the war, and that the number of saloons should be restricted and no liquor be sold to soldiers, women or minors under 18, and that debts for purchasing liquor should rank with gambling debts. The prefect of the Eure department summarily prohibited the sale of alcohol throughout his department during the war, his decree being signed August 26. He specifies as "alcohol," rum, cognac, calvados, kirsch and brandy. The general in charge of the Rouen department issued a similar decree in May, only he specified that wine, cider and beer were not included in the prohibition, and that the sale of liquor was forbidden only to soldiers, French, British or Belgian, to women, to minors under 18, and to refugees and others receiving state aid. The decrees are given in full in the *Bulletin de l'Académie de Médecine,* May 4, and hailed as great progress as they emanate from laymen.

BERLIN LETTER

BERLIN, May 3, 1915.

Personal

The Cancer Research Institute connected with the Charité Hospital at Berlin has been in charge of Professor Klemperer until recently. His duties calling him elsewhere, Prof. F. Blumenthal, formerly Leyden's assistant, has been made director of the institute during Klemperer's absence at the front.

The chief of the military medical service in the eastern area of war, Obergeneralarzt von Kern, has been advanced to the rank of a general lieutenant, with the title of Excellency. Hitherto no military medical officer, with the exception of the chief of the entire service, von Schjerning, has ever had the title of Excellenz conferred on him. It is regarded as a further token of the appreciation by the kaiser of the achievements of the medical department, the Sanitätskorps, in the war.

The War

EXCHANGE OF PRISONERS

The exchange of severely wounded soldiers is being continued with France and has been begun with Russia. This is a humanitarian measure which meets the greatest approval of all involved. The hard fate of the permanently invalided can certainly be borne better in their home surroundings than in the enemy's country.

PARTIAL REMOVAL OF RESTRICTIONS TO BREAD

New decrees have been issued by the department of the interior, based on the advice of prominent experts summoned for the purpose from medical circles. Continued investigation as to the supply of wheat on hand led to the gratifying discovery that there is a larger supply available than had been supposed. Consequently larger proportions of wheat flour can now be used in making bread, so that conditions approximate normal once more. The supply of oatmeal is so extensive that it can be obtained without a "bread ticket."

FOUR HOSPITAL TRAINS

The number of hospital trains is constantly being added to, and has already reached almost 200.

HEADQUARTERS OF SUPPLIES FOR THE MILITARY MEDICAL DEPARTMENT

The central headquarters for the supplies for the entire sanitary service of the army and navy are installed in the Kaiser Wilhelm Military-Medical Academy at Berlin. The new goods as received are stored in the broad entrance hall. After they have been carefully inspected and approved, they are then arranged on rows of shelving which are installed through the rooms on the various stories. On these ranges of shelving are arranged all the apparatus, instruments, dressing materials and other things required for the medical and surgical work, everything stored in such a way that it is instantly available. During the winter the trucks were loaded with supplies in a heated shed to avoid injury of articles that might have been damaged by the cold. The shed was also lighted with electricity, as at times some of the work had to be done at night. The new methods of warfare have brought new requirements for the equipment of the medical service. For example, there are now special first-aid packages for aviators, and special litters for trench work. These litters

are made so narrow that they can be easily carried through the narrow trenches. They have handles on all sides, and can be strapped on the back, so that a single person can thus carry a wounded soldier on his litter. Knapsacks fitted with surgical supplies are also provided. The drugs used are in tablet form or in sterilized solutions in small fused vials.

RAILROAD EQUIPMENT FOR PROPHYLAXIS OF CONTAGIOUS DISEASES

In Prussia, two hospital trains have been transformed into *Seuchenzüge* to aid in warding off epidemic diseases. Each train consists of a "clean" part, in which there is no fear of contagion, and a "contaminated" part. In one of the trains the first part has thirteen cars, the second, twenty-five. On one platform of twelve of the last cars stands an arrangement for sterilizing the clothing. These platforms are placarded on both sides to warn the brakemen to keep off. The brake handles further are painted red to warn against touching these brakes on the "contaminated" part of the train. None of the brakemen, conductors, engineers or others of the crew are allowed to pass through the "contaminated" part of the train. Any directions or orders they wish to give for the heating, lighting, etc., of the contaminated part of the train must be called from without to the persons in this part of the train. The latter are taught beforehand how to manage the heating and lighting apparatus in their part of the train. If it becomes necessary for others of the crew to enter the contaminated portion, they are required to wear an overgarment and to disinfect themselves under the medical officer's directions before they can pass to the "clean" part.

Car No. 14 is the intermediate link between the clean and the contaminated departments of the train. Here the baths and other special measures considered necessary are enforced before any one is allowed to pass from the rear to the front end of the train. In the "contaminated" part of the train, the platforms are kept wet with a solution of mercuric chlorid, and the brakemen have to scrape their shoes on a cloth wet with the solution and provided for the purpose as they leave the platform. They also have to wash their hands in a similar solution under the physician's orders. In the second train of the kind, the sterilizing boxes are inside the cars, so that the brakemen are free to attend to the brakes at either end of the car.

Women Students During the War

The conditions during the war have not greatly affected the number of women taking university courses. In the winter semester 3,914 women students were registered in German universities, which is an increase of 225 over the previous year. Of this increase, about 100 are in medical courses (944 as compared with 859) and 34 in dentistry (66 as compared with 32). About 25 per cent. of the women are in the Berlin University.

LONDON LETTER

LONDON, May 18, 1915.

The Campaign Against Tuberculosis

A government report shows that up to the end of March, 1914, local authorities had submitted schemes for the treatment of tuberculosis relating to over 95 per cent. of the total population of England. Only five of the fifty county councils and six of the seventy-six county borough councils had not then prepared schemes. March 31 last, 7,898 insured and 14,201 uninsured persons were receiving dispensary treatment, and, in addition, 8,166 insured and 11,445 uninsured persons were under observation by the medical officers of approved dispensaries. On the same date, 4,555 insured and 1,231 uninsured patients (including dependents of the former), were receiving treatment provided in residential institutions by local authorities or at the cost of insurance committees. Up to June 20 last, 259 sanatoriums, hospitals and other residential institutions, containing at least 9,200 beds available for tuberculous cases, had been approved by the board. Approval was also granted to 255 dispensaries in England and seventy-three in Wales, while the appointment of 177 tuberculosis officers was sanctioned. In 1913 the number of cases of pulmonary tuberculosis notified in England and Wales was 96,553, representing 2.64 per thousand of the population, compared with 110,551, or 3.03 per thousand in 1912.

THE ALCOHOL PROBLEM

The drastic proposals of the chancellor of the exchequer for dealing with intemperance among a section of the men engaged in producing munitions of war (described in a previous letter), have been abandoned, as the opposition to them was too great. It was generally felt that to meet a local evil the chancellor was penalizing every one who consumed spirits or wine even in moderation. Moreover, our French allies, who are cut off from the rest of their European market, naturally objected to a measure which would restrict their trade with their one remaining important customer. A suggestion, made some weeks ago in the columns of the *Lancet* has been adopted in principle. This was that the sale of immature spirits, to the consumption of which by working men much of the evil was attributed, should be forbidden. It is now proposed that spirits under 2 years of age shall be compulsory bonded and a surtax levied on all spirits taken out of bond between 2 and 3 years of age. There is to be state control of all saloons in the munition area by a central board composed of representatives of the admiralty, war office and home office.

Libel Action Against the British Medical Association

I have reported in previous letters two actions against the British Medical Association by Stevens, the proprietor of a "cure for consumption," which was exposed in the defendant's publication, "Secret Remedies." In the first action the jury disagreed. In the second they gave a verdict for the association. Stevens has now appealed against this verdict on the ground that it was against the weight of evidence. The appeal has been dismissed.

The Shortage of Physicians

The shortage of physicians in civil practice is increasing in consequence of the demands of the army. The effects are shown in many ways. In the advertisements for resident physicians of hospitals and institutions, which used to be almost confined to males, the words "male or female" are now inserted. In some hospitals American physicians engaged in graduate study have been appointed to the resident posts—an entirely new departure. The remuneration of locum tenens some years ago was about $15 a week. After the passing of the insurance act it rose to from $25 to $35. Since the war it has further increased from $40 to $50, as the demand has far outrun the supply.

PARIS LETTER

PARIS, May 13, 1915.

The War

THE WAR AND PUBLISHING

The breaking out of war last July caused great disturbance during the last five months of 1914 in the industries which have to do with the manufacture of books. The statistics published by the *Bibliographie de la France* furnish interesting indications as to the classes of books which have been most affected. As far as the medical sciences are concerned, there is a reduction during 1914 of about 176 publications. This difference between normal times and the present has been reduced to 133 by slight increases during the first seven months of the year in publications on clinical medicine, surgery, practical instruction in medicine, mineral waters and climatic stations. In the last subject the increase is due to more numerous editions of the *Gazette des Eaux*.

CARDIAC WOUND CAUSED BY A FRAGMENT OF A GRENADE WITH EXTRACTION OF THE PROJECTILE

During a recent session of the Académie de médecine, Dr. Beaussenat, surgeon of the national asylums, showed a patient, a young sergeant, who had been operated on for a cardiac wound and whose history seems unique. Oct. 1, 1914, the soldier was wounded by a fragment of a hand grenade which pierced the diaphragm, the pericardium and the entire thickness of the cardiac muscle, lodging in the right ventricle. The fragment was extracted February 17 last (that is to say, four months and a half after its introduction) and the heart was then sutured. Three days of intense dyspnea and imminent syncope were followed by a slight fever on the fourth, fifth and sixth day, and this was accompanied and followed by pulmonary complications which rapidly disappeared. A month after the operation, the wounded man could be regarded as completely recovered. At present, the heart functions normally.

The prolonged tolerance by the heart of a metallic foreign body had already been shown by two cases, reports of which have been published. In one case the wounded man lived for four months and a half; the second patient did not die until the end of the seventh month after the wound. In neither case, however, was an operation performed and the foreign bodies were not discovered until necropsy. The

case reported by Beaussenat proves that exploratory cardiotomy is justified under such circumstances and that success may be hoped for.

PREVENTIVE TREATMENT OF PERITONITIS COMPLICATING TYPHOID FEVERS IN WAR

At one of the last sessions of the Société médicale des hôpitaux de Paris, Dr. V. Courtellemont called attention to the fact that in war time typhoid fever peritoneal complications are especially frequent because of the exceptional fatigue to which the patients are subjected and the unsatisfactory diet which they receive during their removal. The prevention of these cases of peritonitis is imperative because they are almost invariably fatal; appropriate preventive treatment, however, has very good chance of success. During this period the peritoneal reaction manifests itself by three signs: abdominal distention, vomiting and abdominal pains. The most frequent of these signs is the abdominal distention. As soon as the preperitonitic condition is recognized, the following treatment should be instituted: (1) immobilization on the back (no baths, lotions or wrappings; no lateral movements; no trunk movements); (2) the permanent application to the abdomen of an icebag wrapped in flannel; (3) complete withholding of liquids from the patient; (4) nourishment by means of subcutaneous injections of serum 1 liter per day (500 c.c. in the morning and the same amount in the evening). This treatment should be continued in most cases for three days.

MEASURES AGAINST CONTAGIOUS DISEASES

In response to a question of Dr. Vaillant, deputy from the department of the Seine, the minister of war has explained that orders have been issued to the armies that all prisoners shall undergo a summary medical examination as soon as possible after their capture. Before being removed to the interior of the country, the men and their clothes are to be cleaned and freed from lice and other parasites. Every prisoner whose condition of health is suspicious is to be isolated and kept under observation in a hospital for contagious diseases. All quarters which are occupied by our troops after abandonment by the enemy are to be cleaned and disinfected, if necessary.

A GIFT FROM HAVANA PHYSICIANS

The minister of war has just received a letter from a group of Havana physicians, former pupils of the Faculté de médecine de Paris, "desirous of showing in a practical manner the affection and gratitude felt for their teachers and numerous colleagues who are giving their services in the hospitals of the Red Cross and on the fields of battle." This letter, which bears the signatures of Drs. Francisco Dominguez, Agustin Varona y Gonzales del Valle, Jose A. Presno, J. B. Landeta, Gabriel Casuso, Diego Tamayo, F. Mendez Capote, Eusebio Hernandez, Pedro Lamotte, Julio Irtiz Cano, Octavio Ortiz Coffigny, M. Sanchez Toledo, Antonio Diaz Albertini and Louis Montane, accompanies a gift of 7,000 pounds of tobacco, 14,000 cigars, 25,000 packages of cigarettes, 7,000 liters of white rum, 50,000 pounds of sugar, 4 sacks of coffee, etc., to be distributed among the hospitals of the Red Cross. Dr. F. Dominguez wrote on behalf of the donors, expressing their good will toward their Paris teachers and comrades.

The Osiris Prize

The Osiris prize, which amounts to 100,000 francs ($20,000), is given every three years for "the most remarkable discovery in sciences, letters, arts, industry and in general any subject which concerns the public welfare." This year the committee of award has had to indicate the disposal not only of the prize for the current year, but also of the arrears of the prize of 1912, which was not given out at that time. After a very long deliberation (over two hours and a half), the committee decided to propose the following disposition of the prizes for the ratification of the general assembly of the five academies composing the Institut de France:

1. The Osiris prize for the year 1915 to be given as a reward for the discovery and application of the antityphoid vaccination, 50,000 francs being shared between Professors Chantemesse and Widal and 50,000 francs being given to Professor Vincent of the Ecole d'application de médecine et de pharmacie militaires du Val-de-Grâce.

2. Out of the unawarded prize of 1912, the sum of 60,000 francs ($12,000) to be devoted to the military works of the institute and the remainder to be held in reserve.

It is interesting to recall that the Osiris prize was awarded for the first time, in 1903, to Dr. Roux, director of the Pasteur Institute, for his work on diphtheria.

Marriages

ALFRED ERVAN CHESLEY, M.D., to Miss Geneva M. James, both of Lawrence, Mass., at Plaistow, N. H., May 20.

LAWRENCE KIRBY LUNT, M.D., Boston, to Mrs. M. H. Donaldson of Scotland, at Brookline, Mass., May 17.

CHARLES WILSON FREY, M.D., Dallastown, Pa., to Miss Virginia D. Billet of North York, Pa., May 19.

JOHN L. FOXTON, M.D., to Miss Mabel Fuller, both of Huron, S. D., at Laurel, Neb., May 19.

PAUL HENRY RINGER, M.D., to Miss Eleanor Varick Morrison, both of Asheville, N. C., May 1.

R. M. SHAW, M.D., Alex, Okla., to Mrs. Myrtle Norman of Oklahoma City, recently.

WILLIAM F. SIRAK, M.D., Cleveland, to Miss Lottie Greenberg of Bay City, Mich., May 2.

ROBERT HURKA, M.D., to Miss Helen Conover, both of Verdon, Neb., May 15.

Deaths

George Wilkeston Guthrie, M.D., one of the best-known and most esteemed practitioners of Pennsylvania; died after a long illness, of bronchopneumonia followed by pleural effusion, at his home in Wilkes-Barre, May 31, aged 70. He was born in Guthrieville, Pa., and was graduated from the University of Pennsylvania, Philadelphia, in 1873. A year later he was elected secretary of the Luzerne County Medical Society and served the organization in this capacity for sixteen years when he was elected president. He was a member of the Medical Society of the State of Pennsylvania, and served as councilor and trustee for a long term, was president of this constituent association about 1900. He was a Fellow of the American Medical Association and from the time of the organization of the House of Delegates in 1902, until 1913, inclusive, he was continuously a member of that body; in 1912 he was made a member of the Judicial Council of the Association. He was also a Fellow of the American Surgical Association; and for many years surgeon to the Wilkes-Barre City Hospital and consulting surgeon to the Pittston Hospital. He was for a long time a member of the Wilkes-Barre Board of Education. Dr. Guthrie, both as a physician and a citizen, was one of the leading men in Pennsylvania. A man of integrity, a man of definite and strong opinion, but one who never lost sight of justice, Dr. Guthrie was a worthy and dependable councilor.

John Threadgill, M.D. University of Alabama, Mobile, 1874; a Confederate veteran; for several years proprietor of a sanatorium at Norman, Okla.; president of the Oklahoma Bank and Trust Company; organizer and president of the Oklahoma National Life Insurance Company; for two terms a member and for one term president of the State Board of Education; president of the Oklahoma City School Board in 1903; for two terms a member of the Oklahoma legislature and a member of the State Pension Board; died at his home in Oklahoma City, May 15, from heart disease, aged 67.

George Gustave Lempe, M.D. Albany (N. Y.) Medical College, 1888; a Fellow of the American Medical Association, and a member of the American Association of Anatomists; president of the Albany County Medical Society in 1910; lecturer on surgery and anatomy in his alma mater; assistant attending surgeon to Albany Hospital and consulting surgeon to the Benedictine Hospital, Kingston, N. Y.; surgeon of the Third Cavalry Squadron, N. G., N. Y., and detailed to duty with B Troop; died at his home in Albany, May 17, from myocarditis, aged 49.

Amos Walker Barber, M.D. University of Pennsylvania, Philadelphia, 1883; of Cheyenne, Wyo.; president of the Wyoming State Medical Society; governor of Wyoming in 1892, during the famous range war which was known as "The Cowmen's Invasion" when his wise counsel is said to have prevented interstate strife; in 1885, on duty at the Military Hospital at Fort Fetterman; said to have been the originator of the treatment of snake-bite by permanganate of potassium; died in Rochester, Minn., May 18, aged 54.

John Steele Mabon, M.D. University of Pennsylvania, Philadelphia, 1880; a Fellow of the American Medical Association and American Laryngological, Rhinological and Otological Society; for a time a member of the faculty of the

Western Pennsylvania Medical College; a specialist on diseases of the nose, throat and ear, of Pittsburgh, and formerly president of the Allegheny County Medical Society; one of the most prominent specialists of Pennsylvania; died at his home in West View, Pittsburgh, May 20, aged 58.

J. Guy McCandless, M.D. Jefferson Medical College, 1863; a Fellow of the American Medical Association and a widely known physician of Pittsburgh; for many years a member and president of the common and select councils and for one term director of public works of Pittsburgh, and for three terms a member of the State Board of Medical Examiners; surgeon of the One Hundred and Fifty-Second Pennsylvania Volunteer Infantry throughout the Civil War; died at his home in Pittsburgh, May 23, aged 75.

William Dougall, M.D. Northwestern University Medical School, Chicago, 1868; a Fellow of the American Medical Association; once president and later secretary of the Will County (Ill.) Medical Society; president of the Illinois Pure Aluminum Company, Lemont, and for a time chief surgeon of the Illinois and Michigan Canal; from 1879 to 1883, postmaster of Joliet; a veteran of the Civil War; died at his home in Joliet, May 18, from heart disease, aged 73.

George A. Stark, M.D. McGill University, Montreal, 1872; assistant surgeon of the Northern Pacific Railway at Mandan, N. D., and assistant physician at the North Dakota State Reform School; from 1883 to 1889, justice of the peace of Glen Ullin; for twenty-five years health officer of Morton County and for two terms county physician; died at his home in Mandan, N. D., May 6, from cerebral hemorrhage, aged 71.

Mark Delimon Stevenson, M.D. Rush Medical College, 1897; a Fellow of the American Medical Association and a member of the American Academy of Ophthalmology and Oto-Laryngology; vice president of the Summit County (Ohio) Medical Society in 1907, and president in 1908; co-editor of *Ophthalmology;* died at his home in Akron, Ohio, May 21, from septicemia, aged 39.

Hewlitt Whitty Oakley, M.D. University and Bellevue Hospital Medical College, 1904; a Fellow of the American Medical Association and one of the organizers of the Tulare County Medical Association; at one time connected with the medical staff of the S. R. Smith Infirmary, Staten Island, New York; died at his home in Portersville, Calif., May 21, from dysentery, aged 35.

R. Dorsey Coale, M.D. University of Maryland, 1912; Ph.D. Johns Hopkins University; for many years dean of the medical school of the University of Maryland; colonel of the Fifth Infantry, Md. N. G., during the Spanish-American War, and from 1886 to 1909, an officer of that regiment; died in University Hospital, Baltimore, May 17, from cerebral hemorrhage, aged 58.

Thomas H. Maxedon, M.D. Hospital College of Medicine, Louisville, 1887; a member of the Indiana State Medical Association and one of the best-known surgeons of Indiana; local surgeon to the Baltimore and Ohio Southwestern Railway; president of the Metropolitan Police Board of Vincennes; died at his home in that city, May 19, from cerebral hemorrhage, aged 53.

James S. McDonough, M.D. Atlanta (Ga.) Medical College, 1860; one of the oldest citizens of Knoxville, Tenn.; a member of the State Board of Medical Examiners of Tennessee since 1893; surgeon of the Sixty-Third Tennessee Infantry, C. S. A., throughout the Civil War; died at his home in Knoxville, May 16, aged 84.

Alfred C. Clark, M.D. Jefferson Medical College, 1869; a member of the Medical Society of the State of Pennsylvania; for eighteen years medical inspector of Northumberland County, Pa., for the State Board of Health and local surgeon for the Pennsylvania system at Sunbury; died at his home in Sunbury, May 16, aged 70.

William Richard Bevan, M.D. Marion-Sims-Beaumont College of Medicine, St. Louis, 1906; professor of pathology, histology and bacteriology in Epworth University, Oklahoma City; instructor and assistant professor of obstetrics in the University of Oklahoma, Oklahoma City; died recently from tuberculosis, aged 34.

George Clarence Gliddon, M.D. University of Toronto, 1914; of Union, Ont.; captain, Canadian army medical corps and R. M. O. tenth battalion, second brigade, first Canadian expeditionary force; who was seriously wounded at the battle of Langemarck in Flanders; died from his wounds, May 14, aged 26.

James M. McMasters, M.D. Rush Medical College, 1866; of Sauk Center, Minn.; assistant surgeon of Minnesota Volunteers during the Civil War, and acting assistant surgeon, U. S. Army, in 1867 to 1868, with duty at Fort Ridgley; died at the home of his daughter in Valparaiso, Ind., May 8, aged 73.

Edward McVicker Hamaker, M.D. Medico-Chirurgical College of Philadelphia, 1913; who after completion of his internship in the Philadelphia General Hospital, located in Muskegon, Mich., May 20, was found dead in his room in a hotel in that city, May 21, from heart disease, aged 24.

Charles Jewett Lincoln, M.D. Dartmouth Medical School, Hanover, N. H., 1895; a Fellow of the American Medical Association; physician to the Augusta (Me.) City Hospital, and supreme physician to the American Royal Circle; died at his home in Augusta, Me., March 14, aged 45.

Sigismund Cohn, M.D. University of Berlin, Germany, 1888; a Fellow of the American Medical Association and a member of the American Electrotherapeutic Association, and the German Medical Society; died at his home in New York City, May 18, from heart disease, aged 53.

William Jeff. Armstrong, M.D. Bellevue Hospital Medical College, 1883; a member of the Medical Society of the State of Pennsylvania; at one time a member of the Board of Education of Kane, Pa.; died at his home in that place, May 13, from heart disease, aged 61.

James Perry Walters, M.D. Miami Medical College, Cincinnati, 1876; formerly a member of the Illinois State Medical Society and secretary of the Wayne County Medical Society; a veteran of the Civil War; died at his home in Fairfield, Ill., May 9, aged 66.

Michael Freebern Gavin, M.D. Harvard Medical School, 1864; a Fellow of the American Medical Association; surgeon of the Fifty-Seventh Infantry, Mass. V. M., during the Civil War; died at his home in South Boston, May 20, from cerebral hemorrhage, aged 71.

William P. Dillon, M.D. McGill University, Montreal, 1904; of Ottawa, Ont.; major in the Canadian army medical corps and on duty with the Canadian contingent in France; died in General Hospital No. 2, in rear of the British lines near Ypres, France, May 13.

Frank Mills Douglass, M.D. Tulane University, New Orleans, 1905; a member of the State Medical Association of Texas, and formerly president of the Hill County (Tex.) Medical Society; died at his home in Itasca, Tex., May 17, from nephritis, aged 37.

Henry William Muller, M.D. New York University, New York City, 1898; formerly a member of the Medical Society of the State of New York and physical director of the Y. M. C. A.; died at his home in New York City, May 21, from nephritis, aged 44.

James Arthur Robinson, M.D. University of Pennsylvania, Philadelphia, 1882; a practitioner of Taunton, Mass.; who left on a trip to the Pacific coast on May 11; was found dead from heart disease in his room in the Rosslyn Hotel, San Francisco, May 22.

James M. Stevens, M.D. Medical College of the State of South Carolina, Charleston, 1852; surgeon of the Forty-Seventh N. C. Infantry, C. S. A., throughout the Civil War; died at his home near Leicester, N. C., May 17, from heart disease, aged 87.

John George Layton, M.D. Cleveland Homeopathic Medical College, 1895; of Independence, Ohio; died in the Cleveland State Hospital, April 15, from general paresis, aged 50.

Charles H. Jones, M.D. Tulane University, New Orleans, 1876; formerly of Greenville, Miss.; died at his home in Memphis, Tenn., May 6, aged 70.

Patrick H. Thompson, M.D. Tulane University, New Orleans, 1878; of Bluffton, Ga.; died in a sanatorium in Atlanta, Ga., May 10, aged 63.

John W. McMurray, M.D. Homeopathic Medical College, Cleveland, 1890; died at his home in Marion, Ohio, May 11, from arteriosclerosis, aged 75.

George A. Hibbert, M.D. College of Physicians and Surgeons, Chicago, 1893; died at his home in Chicago, May 15, from angina pectoris, aged 48.

Edna Thompson Mathews, M.D. Eclectic Medical Institute, Cincinnati, 1892; died at her home in Dayton, Ohio, May 5, aged 57.

Otto Henry Hund, M.D. New York University, New York City, 1880; died at his home in San Francisco, May 4.

George Nixon Fish, M.D. Trinity Medical College, Toronto, 1898; died at his home in Toronto, May 1.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

TANLAC

Tanlac is a product of the Cooper Medicine Company, Dayton, Ohio. The controlling spirit of the Cooper concern seems to be one L. T. Cooper, who has been quacking it for many years. A few years ago it was "Cooper's New Discovery" that was being exploited by L. T. Cooper by the free vaudeville-medicine-show route. In 1907 Cooper was operating the "tapeworm trick" as one of his means of relieving the gullible of their money.

THE ALPS
Tanlac elements come from remote sections of the Globe
MOST PROMINENT PEOPLE IN STATE TAKING TANLAC
COOPER TELLS WHY TANLAC COMES FROM REMOTE SECTIONS OF GLOBE
BIGGEST THING OF KIND EVER SEEN IN THIS CITY
LOCAL WOMAN'S OWN STATEMENT
PAT LALLY STATES TANLAC IS TIPTOP
FARMER "ICE KING" MAKES STATEMENT
COOPER FURNISHING BREAD FOR ORPHANS
TANLAC "The Premier Preparation"
CITY DEPUTY DAILY ASSISTANT TAKES TANLAC

Greatly reduced reproduction of an advertisement of Tanlac that appeared in a Louisville (Ky.) paper.

"Cooper's New Discovery" contained 17 per cent. alcohol and was sold as a "tonic and system purifier." Tanlac contains 17 per cent. alcohol and is a "tonic and system purifier."

During the last few months the Cooper concern has been advertising heavily and doing a big business in the southern states and—with the help of the newspapers—has doubtless relieved the people of the South of many thousands of dollars. The claims made for Tanlac are of the usual fraudulent type:

"Tanlac . . . is not what is commonly called a medicine; it is more than a medicine, being the liquid maximum strength of medicinal properties of a plant discovered by Cooper's uncle, a celebrated scientist, which plant properties, together with other ingredients, obtained their high efficiency under the personal direction of Herr Jos. Von Trimbach, a native German chemist of note in charge of the Cooper laboratory."

"Tanlac is called the magic medicine . . ."

"Tanlac . . . preserves your health, gives you renewed energy, brightens your spirits, lengthens your life . . ."

"Catarrh" is Cooper's catchword. As with the old Peruna fraud every ailment is "catarrh" and the one infallible cure for "catarrh" is—according to Cooper—Tanlac! A number of inquiries having been received regarding this nostrum a bottle of Tanlac was secured and subjected to analytical tests. The report of the chemists of the Association's laboratory follows:

CHEMISTS' REPORT[1]

One original bottle of Tanlac, manufactured by the Cooper Medicine Company, Dayton, Ohio, was submitted to the Chemical Laboratory for examination. The bottle contained 8 ounces of a brown liquid having a wine-like odor, and also an odor somewhat resembling wild cherry. The taste was bitter, resembling gentian. The specific gravity of the liquid at 15.6 C. was 1.0205. Qualitatively, tests disclosed the presence of alkaloids, berberine being isolated and identified. Other alkaloids beside berberine were present, but not identified. Hydrastine and the commoner alkaloids were not found. Tests for emodin were positive. Acid caused precipitation, the precipitate having an odor of licorice. After purification, and treatment with ammonia, the ammonium salt of glycyrrhizic acid was detected. A relatively large proportion of glycerin was present. A small amount of tartaric acid was detected, which would indicate a wine. The residue, which weighed 11.1 per cent., was largely glycerine. The ash was 0.25 per cent. The amount of alcohol was found to be 15.70 per cent. of absolute alcohol by volume. The weight of the alkaloids was 0.017 per cent.

From the examination, it is concluded that Tanlac is probably a vinous extract containing essentially a bitter drug (such as gentian), an emodin-bearing drug (such as buckthorn, rhubarb or cascara), a berberine-bearing drug (in which hydrastine is not present, such as berberis aquifolium), glycyrrhizic acid (from licorice), flavored with wild cherry, and to which has been added a relatively large proportion of glycerine.

NASHVILLE TENNESSEAN and The
22,000 BOTTLES OF TANLAC SOLD BY KNOXVILLE FIRM
MOST PROMINENT PEOPLE IN SOUTH TAKING TANLAC
MRS. BAKER GAINS 20 POUNDS IN ONLY ONE MONTH
WILLIS TELLS WHY TANLAC IS POPULAR
ARE FROM REMOTE PARTS OF GLOBE
MRS. M. L. WADE GAINS 7 LBS. IN ONLY TEN DAYS
NASHVILLE DRUGGIST SELLS 600 BOTTLES
SALE PHENOMENAL FROM VERY FIRST
TANLAC SHIPPED TO MANY STATES

A Nashville (Tenn.) paper recently published this three-column advertisement of Tanlac.

Accompanying the bottle of Tanlac, were some "Tanlac Laxative Tablets." These contained phenolphthalein.

The findings of the chemists indicate that Tanlac is essentially a wine to which have been added some bitter herbs, a small amount of laxative and some glycerine. In October,

1. This is a condensed report of the chemists' findings. The details of analysis will appear in the Reports of the Chemical Laboratory of the American Medical Association for 1915.

V. 191

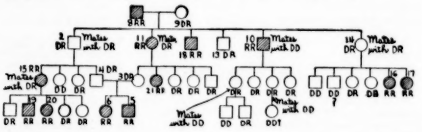
1914, the newspapers of Lexington, Ky., recorded the arrest of L. T. Cooper in connection with his method of exploiting his nostrum. There were several indictments against him to one of which he pleaded guilty, the others being filed. It now seems that Dr. A. T. McCormack, Secretary of the State Board of Health of Kentucky, is asking that these other indictments be revived and the case against this quack be reopened. It is possible that this may result in some restriction of the sale of this alcoholic tonic in the state of Kentucky. There is no doubt that other southern states whose sick are being mulcted by this concern could give equal protection to the public.

Correspondence

Polydactylism as a Hereditary Character

To the Editor:—In his paper on this subject (THE JOURNAL, May 15, 1915, p. 1640), Dr. Brandeis, while by no means deciding the question whether polydactylism is a dominant or a recessive characteristic, seems to assume that the mendelian dominance of either polydactylism or five-fingeredness is an irregular or an imperfect dominance. It does not appear—on carefully considering the family history with which he deals or the other family trees quoted—that such an assumption is really necessary.

Prima facie, I should be more apt to assume from these tables that polydactylism is a truly recessive trait; perhaps also venturing the suggestion that a proportion of the human race, larger than one would at first suppose, may have received from their parents factors that, under proper mating conditions, might bring this recessive trait to light.



Squares indicate males, circles, females. Shaded areas indicate affected persons (polydactyls).

Assuming these things, let us suppose that Individual 8 in Dr. Brandeis' tree is really RR in composition, and mates with 9, an apparently normal woman, but really DR in make-up. Obviously their offspring must be either DR or RR in kind: 10, 11 and 18, being polydactyl, are evidently RR; 2, 13 and 14 we must assume to be DR. Since one of Q's children is evidently RR, we must assume that Q's wife is also DR in make-up; of their three other children, one is likely to be DD, the others, including Individual 4, may reasonably be assumed to be DR. Individual 11, by our original assumption, is RR, and the polydactylism of her daughter, 21, proves that her husband is not DD, but presumably DR. (Digressing for a moment, it appears probable that 10, also RR, has mated with a DD, since his offspring are free from the recessive trait.) Returning to Individual 11 (RR as stated, and mated with DR), her daughter, 3, can only be DR: this daughter, 3, weds 4, her cousin, also probably DR, and their two children unite the R germ cells of each parent. If a larger family had sprung from the union of 3 and 4, it might have been anticipated that only one child out of four could have been a polydactyl: the fact that both their children are recessives is paralleled in an opposite way by the progeny of 11: here, instead of the mating of RR with DR giving equal numbers of RR and DR, we find in fact out of five children only one recessive, and that slightly. ("Six fingers left hand [the sixth] very rudimentary.") Dr. Brandeis' tree may then perhaps be amplified as above, symbols DR, RR, etc., being attached, and suggestions interpolated as to probable matings of individuals: the same explanations apply as in the original figure.

W. R. TYMMS, M.D., Gig Harbor, Wash.

Factors in Appendicitis

To the Editor:—In THE JOURNAL, May 8, 1915, p. 1584, a quotation is made from Rosenow to the effect that Heyde, Aschoff and others have called attention to the fact that the anatomy of the appendix favors strangulation of its circulation. These two authors are probably chosen for quotation because they are "made in Germany." One of them published his theory in 1911 and the other published his theory in 1912. Among "the others" one will find a complete description of this mechanical theory in a book entitled "Lectures on Appendicitis" by an American author, published in 1896. This book is to be found in medical libraries. It contains the statement that the serious complications of acute infective appendicitis are dependent on swelling of the internal coats of the appendix within the outer constricting sheath of peritoneum. When, for any reason, the inner coats of the appendix become compressed within the less resilient outer sheath of peritoneum, compression anemia follows. Tissues subjected to compression lose their natural degree of resistance to enteric bacteria, which promptly attack any such anemic tissues. Furthermore, proliferating endarteritis of the vessels of the appendix occurs as a result of toxic influence, and still further disables that organ. This American opinion was published fifteen years in advance of that of German authors who are chosen for quotation.

ROBERT T. MORRIS, M.D., New York.

Rigidity of the Right External Oblique in Appendicitis

To the Editor:—Textbooks and literature on appendicitis have laid so much emphasis on rigidity of the right rectus muscle as a symptom, that many cases of appendicitis have been neglected, because of lack of rigidity of the right rectus muscle. Rigidity of the right rectus, we all agree, is the most reliable of the symptoms which we have in appendicitis. There are a few cases, however, in which rigidity of the right rectus is lacking, but if looked for, there will be found rigidity of the right external oblique muscle. The cases of rigidity of the right external oblique muscle, and absence of rigidity of the right rectus, pursue a peculiar course. All cases are considered mild, many patients are up and around, some attending to business, and only a high polynuclear count shows the seriousness of the disease. In over twenty cases seen the past year, in which there was rigidity of the right external oblique, and not of the right rectus, the appendix has been retrocolic or retrocecal in every case. This is a point to which the attention of the medical profession should be drawn, to avoid serious neglect and carelessness.

H. E. RANDALL, M.D., Flint, Mich.

The Country Doctor

To the Editor:—May I carry a little further the comparison made by Dr. Flancher (THE JOURNAL, March 27, 1915, p. 1095), between city physicians and country physicians?

I practice in the country and go 20 miles to set a broken leg, attend a confinement, or treat a child for some common ailment. Like others in my situation, I often have to do without needed help, which a city man could procure. I have to be a "specialist" in everything. How many city doctors would manage all kinds of cases more successfully than we country "hayseeds" do? This is something they seldom think of. The city man writes the books but the country man has so much to study he seldom has time to write. Doctors are like trees. In the city they grow tall and straight, like trees in a thick forest, and reach a height we country doctors cannot attain to. The country doctors are like trees growing alone, where there is plenty of light and air, and where the winds have a full sweep. They grow thick and rugged. Not so much lumber can be cut from their bodies as from the tall, straight ones in the forest, but they have the strength to resist the fiercest storms.

A. C. AMES, M.D., Mountain Grove, Mo.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

POISONING FROM SODIUM CHLORID

To the Editor:—I have just heard of a case of sodium chlorid poisoning caused by the ordinary amount of sodium chlorid which is taken with food. Have you records of any cases of sodium chlorid poisoning? Are you able to cite literature on such cases.

EDWARD B. MARKEY, M.D., Hamilton, Ohio.

ANSWER.—Excessive doses of common salt may produce death, and, ordinarily speaking, this may be said to be the result of poisoning. It is, of course, possible that a patient may be hypersusceptible to sodium chlorid. In THE JOURNAL, Oct. 5, 1912, p. 1290, a case of poisoning with common salt is reported by O. H. Campbell, and an editorial in the same issue, p. 1297, refers to five other cases. In Queries and Minor Notes, Oct. 26, 1912, p. 1560, there is a consideration of poisoning from sodium chlorid when used in large doses as a drug.

LITERATURE ON PELLAGRA

To the Editor:—Please cite recent literature on pellagra to be used in the preparation of a paper on that subject.

O. M. BOURLAND, M.D., Van Buren, Ark.

ANSWER.—The following refer to articles which have appeared within the last year:

Italian Research on Pellagra, Foreign News, THE JOURNAL, May 22, 1915, p. 1776.

Cencelli, A.: New Theories and Investigations Concerning Pellagra, *Lancet*, London, April 17, 1915; abstr., THE JOURNAL, May 15, 1915, p. 1687.

Palmer, E. E., and Secor, S. L.: Treatment of Pellagra by Autoserotherapy, THE JOURNAL, May 8, 1915, p. 1566.

Fossier, A. E.: Case of Pellagra Treated Successfully with Trisodium Citrate, *New Orleans Med. and Surg. Jour.*, May, 1915; abstr., THE JOURNAL, May 29, 1915, p. 1879.

Sanders, T. E.: Organism Probably Causing Pellagra, *Southern Med. Jour.*, March, 1915; abstr., THE JOURNAL, April 3, 1915, p. 1194.

Page, B. W.: Etiology and Treatment of Pellagra, *Southern Med. Jour.*, February, 1915.

Singer, H. D.: Mental and Nervous Disorders Associated with Pellagra, *Arch. Int. Med.*, January, 1915, p. 121; abstr., THE JOURNAL, Feb. 6, 1915, p. 539.

Blosser, R.: Observations Further Incriminating Sugar-Cane Products as Main Cause of Pellagra in South, *Southern Med. Jour.*, January, 1915; abstr., THE JOURNAL, Feb. 6, 1915, p. 543.

Page, B. W.: Etiology of Pellagra, *Med. Rec.*, New York, Jan. 2, 1915; abstr., THE JOURNAL, Feb. 6, 1915, p. 542.

Beeson, C. F.: The Thyroid Gland in Pellagra, THE JOURNAL, Oct. 12, 1914, p. 2129.

Siler, J. F.; Garrison, P. E., and MacNeal, W. J.: Relation of Methods of Disposal of Sewage to Spread of Pellagra, *Arch. Int. Med.*, October, 1914, p. 453; abstr., THE JOURNAL, Nov. 7, 1914, p. 1695.

Jennings, A. H.: Two Years' Study of Insects in Relation to Pellagra, *Jour. Parasitol.*, September, 1914; abstr., THE JOURNAL, Oct. 17, 1914, p. 1424.

Goldberger, J.: Beans for Prevention of Pellagra, Correspondence, THE JOURNAL, Oct. 10, 1914, p. 1314.

Voegtlin, C.: Treatment of Pellagra, THE JOURNAL, Sept. 26, 1914, p. 1094.

Lavinder, C. H.; Francis, E.; Grimm, R. M., and Lorenz, W. F.: Attempts to Transmit Pellagra to Monkeys, THE JOURNAL, Sept. 26, 1914, p. 1093.

Etiology of Pellagra, Editorial, THE JOURNAL, Sept. 26, 1914, p. 1114.

Pellagra and Potable Waters, Editorial, THE JOURNAL, Sept. 5, 1914, p. 868.

Dyer, I.: Treatment of Pellagra, *Texas State Jour. Med.*, July, 1914; abstr., THE JOURNAL, Aug. 15, 1914, p. 608.

Child Federation Bulletin Service.—The Child Federation of Philadelphia, May 1, began the demonstration of a new idea in publicity work when it placed in 300 locations in the congested districts of the city, bulletins, 17 by 22 inches, on the "Prevention of the Fly." The bulletin boards are made of sheet iron and are so constructed that the bulletins printed on cardboard, may be placed in them without the use of paste, tacks or other holding means. Twenty social agencies were approached and each was asked to install a certain number of bulletin boards. The location of the boards was selected after a thorough survey of the city. The bulletins to be placed during the coming year number seventeen, and will treat of the general sanitary measures regarding the home, the hygiene of the family, care of the baby, etc.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, July 6. Chairman, Dr. W. H. Sanders, Montgomery.

ALASKA: Juneau, July 6. Sec., Dr. Harry C. DeVighne, Juneau.

ARIZONA: Phoenix, July 6-7. Sec., Dr. John Wix Thomas, Phoenix.

CALIFORNIA: San Francisco, June 15-18. Sec., Dr. Charles B. Pinkham, 727 Butler Bldg., San Francisco.

CONNECTICUT: New Haven, July 13. Sec., Dr. Charles A. Tuttle, 196 York St., New Haven; Eclectic: New Haven, July 13. Sec., Dr. T. S. Hodge, 19 Main St., Torrington; Homeopathic: New Haven, July 13. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

DELAWARE: Dover and Wilmington, June 15-17. Sec., Dr. H. W. Briggs, 1026 Jackson St., Wilmington.

DISTRICT OF COLUMBIA: Washington, July 13. Sec., Dr. Edgar P. Copeland, The Rockingham, Washington.

FLORIDA: Jacksonville, June 15-16. Sec., Dr. E. W. Warren, 102 Front St., Palatka.

ILLINOIS: Chicago, June 24-26. Sec., Dr. C. St. Clair Drake, Springfield.

INDIANA: Indianapolis, July 13-15. Sec., Dr. W. T. Gott, 120 State House, Indianapolis.

IOWA: Iowa City, June 10-12. Sec., Dr. G. H. Sumner, Capitol Bldg., Des Moines.

KANSAS: Kansas City, June 8-10. Sec., Dr. H. A. Dykes, Lebanon.

KENTUCKY: Louisville, June 8-10. Sec., Dr. A. T. McCormack, Bowling Green.

MAINE: Augusta, July 6-7. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.

MARYLAND: Baltimore, June 21. Sec., Dr. J. McP. Scott, Hagerstown.

MARYLAND: Homeopathic, Baltimore, June 15-16. Sec., Dr. O. N. Duvall, 1817 N. Fulton Ave., Baltimore.

MASSACHUSETTS: Boston, July 13-15. Sec., Dr. Walter P. Bowers, Room 501, No. 1 Beacon St., Boston.

MICHIGAN: Ann Arbor, June 8-10. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MISSISSIPPI: Jackson, June 15-16. Sec., Dr. E. H. Galloway, Jackson.

MISSOURI: St. Louis, June 21-23. Sec., Dr. J. A. B. Adcock, State House, Jefferson City.

NEBRASKA: Lincoln, June 10-11. Sec., Dr. H. B. Cummins, Seward.

NEW HAMPSHIRE: Concord, July 6-7. Regent, Mr. H. C. Morrison, Concord.

NEW JERSEY: Trenton, June 22-23. Sec., Dr. H. G. Norton, 429 E. State St., Trenton.

NEW MEXICO: Santa Fe, July 12. Sec., Dr. W. E. Kaser, East Las Vegas.

NEW YORK: Albany, Buffalo, New York and Syracuse, June 29-July 2. Mr. Harlan H. Horner, Chief, Examination Division, State Education Bldg., Albany.

NORTH CAROLINA: Greensboro, June 8. Sec., Dr. H. A. Royster, Raleigh.

NORTH DAKOTA: Grand Forks, July 6-9. Sec., Dr. G. M. Williamson, Grand Forks.

OHIO: Columbus, June 8-11. Sec., Dr. George H. Matson, Columbus.

OKLAHOMA: Oklahoma City, July 13. Sec., Dr. Ralph B. Smith, 502 Daniel Bldg., Tulsa.

OREGON: Portland, July 5. Sec., Dr. L. H. Hamilton, Medical Bldg., Portland.

RHODE ISLAND: Providence, July 1. Sec., Dr. Gardner T. Swarts, State House, Providence.

SOUTH CAROLINA: Columbia, June 8. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.

SOUTH DAKOTA: Pierre, July 12. Sec., Dr. Park B. Jenkins, Waubay.

TENNESSEE: Memphis and Nashville, June 25, 26. Sec., Dr. A. B. De Loach, 426 Scimitar Bldg., Memphis.

TEXAS: Austin, June 22-24. Sec., Dr. M. P. McElhannon, Belton.

UTAH: Salt Lake City, July 5. Sec., Dr. G. F. Harding, 407 Templeton Bldg., Salt Lake City.

VERMONT: Burlington, July 1-3. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 22-25. Sec., Dr. J. N. Barney, Fredericksburg.

WASHINGTON: Seattle, July 6. Sec., Dr. G. N. Suttner, Baker Bldg., Walla Walla.

WISCONSIN: Milwaukee, June 29-30—July 1. Sec., Dr. J. M. Beffel, 3200 Clybourn St., Milwaukee.

Florida Homeopathic March Report

Dr. J. Burnie Griffin, secretary of the Florida Homeopathic Board of Medical Examiners, reports the written examination held at Jacksonville, March 5-6, 1915. The total number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 14, all of whom passed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Chicago Homeopathic Medical College	(1886) 80; (1887) 88; (1896) 90, 90; (1900) 86.		
Hahnemann Medical College and Hospital, Chicago	(1894) 91; (1896) 90; (1906) 89; (1913) 85; (1914) 89.		
University of Michigan, Homeopathic Medical College		(1899)	92
Pulte Medical College		(1900)	82
Hannemann Medical College and Hospital, Philadelphia		(1893)	85
Woman's Medical College of Pennsylvania		(1892)	81

Book Notices

THE MODERN FACTORY. Safety, Sanitation and Welfare. By George M. Price, M.D., Director, Joint Board of Sanitary Control in Cloak, Suit and Skirt and Dress and Waist Industries, New York City. Cloth. Price, $4 net. Pp. 574, with 257 illustrations. New York: John Wiley & Sons, 1914.

This volume shows evidence of careful, systematic preparation. It considers first the history of the factory and the legal definitions of the term "factory." The growth of the factory system is shown as it has occurred in various nations. The types of modern factories are illustrated, the poor contrasted with the good, and numerous suggestions given as to methods of construction. In a section on factory fires and their prevention, a history of important fires is given and the conditions are analyzed to show the possibility of prevention. An important chapter is that concerned with factory accidents and safety. Of recent years great attention has been given to these points. The author gives many illustrations showing methods of preventing contact with belts, cog-wheels, vats, moving saws and punches. Chapter V considers light and illumination, the prevention of glare, the regulation of light, and closes with a discussion of the standards of the Wisconsin Industrial Commission.

Under Factory Sanitation the chief points concerned are washing and toilet facilities, and the provision of a safe drinking supply. A chapter on welfare work discusses the various means of establishing accident and sickness insurance, profit sharing, old age pensions, food inspection, educational work, etc. Other chapters concern air and ventilation in factories, industrial poisons, gases and fumes, and a summary of factory legislation and factory inspection.

The list of appendixes includes a selected bibliography for further study, a partial list of the more important investigations authorized by federal and state legislatures, and suggestions for the organization and execution of exit drills. There is an adequate index, the book is beautifully illustrated, is printed on good paper and seems to be wholly complete and authoritative.

BODILY CHANGES IN PAIN, HUNGER, FEAR AND RAGE. An Account of Recent Researches into the Function of Emotional Excitement. By Walter B. Cannon, George Higginson Professor of Physiology in Harvard University. Cloth. Price, $2 net. Pp. 311, with 39 illustrations. New York: D. Appleton & Co., 1915.

"Fear, rage, pain and the pangs of hunger," says Dr. Cannon, "are all primitive experiences which human beings share with the lower animals. These experiences are properly classed as among the most powerful that determine the action of man and beasts. A knowledge of the conditions which attend these experiences, therefore, is of general and fundamental importance in the interpretation of behavior."

In this book Dr. Cannon has compiled a number of original articles which have appeared in current medical literature during the past year, and which represent work by himself and his associates in the Harvard Physiological Laboratory. An attempt has been made to arrange the discussions in a consecutive manner, and to explain technical terms so that the book may be understood by any intelligent reader.

PATHOLOGICAL TECHNIQUE. A Practical Manual for Workers in Pathological Histology and Bacteriology, Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By Frank Burr Mallory, A.M., M.D., Associate Professor of Pathology, Harvard University Medical School, and James Homer Wright, A.M., M.D., S.D., Pathologist to the Massachusetts General Hospital. Sixth Edition. Cloth. Price, $3. Pp. 536, with 174 illustrations. Philadelphia: W. B. Saunders Company, 1915.

Rapidly appearing modern advances in pathologic methods require the issuing of new editions of standard texts at frequent intervals. The sixth edition of Mallory and Wright is extended by the inclusion of many such methods; for example, Lange's colloidal gold test, the complement fixation test for gonorrhea, and Bielschowsky's silver impregnation stain for nerve fibers. The authors do not attempt to give all the available methods, but merely such as have proved practical and efficient in their experience.

THE CHEMISTRY OF COLLOIDS AND SOME TECHNICAL APPLICATIONS. By W. W. Taylor, M.A., B.Sc., Lecturer in Chemistry at the University of Edinburgh. Cloth. Price, $2 net. Pp. 328. New York: Longmans, Green & Co., 1915.

This book is based on a series of lectures to advanced students in chemistry, and therefore discusses the subject from the standpoint of the chemist. There is, to be sure, a brief final chapter on the applications of colloid chemistry to biology, but it covers little of the great amount of work that has been accomplished in this field. Physicians who read German will be able to learn more from the books of Ostwald and Bechhold that will interest them, but, lacking facility in reading scientific German literature, they can at least secure the fundamental principles from this work. It is brief and clear.

Miscellany

Ben Franklin's Views

At my first admission into this printing-house I took to working at press, imagining I felt a want of the bodily exercise I had been us'd to in America, where press work is mix'd with composing. I drank only water; the other workmen, near fifty in number, were great guzzlers of beer. On occasion, I carried up and down stairs a large form of types in each hand, when others carried but one in both hands. They wondered to see, from this and several instances, that the Water-American, as they called me, was stronger than themselves, who drank strong beer! We had an alehouse boy who attended always in the house to supply the workmen. My companion at the press drank every day a pint before breakfast, a pint at breakfast with his bread and cheese, a pint between breakfast and dinner, a pint at dinner, a pint in the afternoon about six o'clock, and another when he had done his day's work. I thought it a detestable custom; but it was necessary, he suppos'd, to drink strong beer, that he might be strong to labor. I endeavored to convince him that the bodily strength afforded by beer could only be in proportion to the grain or flour of the barley dissolved in the water of which it was made; and there was more flour in a pennyworth of bread; and therefore, if he would eat that with a pint of water, it would give him more strength than a quart of beer. He drank on, however, and had four or five shillings to pay out of his wages every Saturday night for that muddling liquor; an expense I was free from. And thus these poor devils keep themselves always under.—*Autobiography of Benjamin Franklin.*

Neither Are We

It is with some interest we learn that there has been formed in some American cities a league of women for the purpose of compelling medical men to adopt a certain method of treatment. These good ladies have heard of the bliss of "twilight sleep" and of the ease of "painless labour," and while willing to produce children they are determined to do it with as little trouble to themselves as possible. This is so far a reasonable attitude, and one with which we do not quarrel. But the further step to the insistence on the rendering of labour painless by the use of scopolamin and morphin takes too many things for granted. It assumes, for instance, that scopolamin and morphin invariably produce the desired effect, and that they do so without appreciable danger. Unfortunately, neither of these propositions has yet been established. We are far from decrying the use of these drugs under suitable conditions and with the necessary care. But all our experience of them goes to show that their employment needs very careful attention — attention which it is not always possible to give in the conditions of ordinary obstetric practice. Whether these conditions will be modified in the future so as to permit of a wider use of these drugs remains to be decided, but their haphazard use at present is greatly to be deprecated. However, the ladies of the "Pain-

less Labour League" have made up their minds. They are going to have their labours painless, and they are, as a first step, setting themselves to classify practitioners according to whether they use scopolamin or do not. The names of those who do not use the drug are to be put on the black list, and women are to be warned against employing them. We are glad to say that in these countries we are not yet used to having our therapeutic judgment compelled in this way.—*Medical Press and Circular*, May, 1915.

Statistics of Appendicitis in the Prussian Hospitals in 1912

Appendicitis seems to have greatly increased in recent years. Up to the year 1905 in the various hospitals of Prussia these cases were included in the group of peritonitis, of which the total number had increased from 896 (399 men, 497 women in 1877, to 15,918 (8,402 men, 7,516 women) in 1905. From 1906 on, the cases of appendicitis and peritonitis were tabulated separately, and it was found that while the former increased greatly, the latter did not increase in any noticeable quantity. The statistics from 1906 to 1912 showed that the cases of appendicitis in this period were 16,781, 19,285, 22,813, 25,689, 31,425, 38,555 and 41,503, whereas the statistics for peritonitis were 2,390, 2,498, 2,512, 3,710, 4,401, 3,459 and 3,628. In 1906 there were 9,184, or 54.73 per cent., men, and 7,597, or 45.27 per cent., women. In 1912 there were 21,225 men, or 51.14 per cent., and 20,278 women, or 48.86 per cent. The death rate in this disease was 7.7 per cent. in 1906 as compared with 5.45 per cent. in 1912 for men, and 5.45, as compared with 3.61, for women. The number of operations was much greater among the young than among the adult, and the mortality proportionately greater according to the youth of the patient. There seems to be no definite increase in mortality among the adults as related to increasing age.

Medicolegal

Damages for Injuries Causing Epilepsy

(Louisville & N. R. Co. vs. Winkler (Ky.), 173 S. W. R. 151; Galveston, H. & S. A. Ry. Co. vs. Roemer (Tex.), 173 S. W. R. 229)

The Court of Appeals of Kentucky affirms, in the first case, a judgment for $2,500 damages in favor of the plaintiff, Winkler, for personal injuries he received in an accident on a freight train on which he was serving as a conductor. The court says that while Winkler was seated in the caboose he was pitched forward about 10 feet, and his head struck the water cooler in the front end of the car. A gash was cut to the bone on the right side of his head, and he suffered other injuries which at the time he thought were of a minor nature. It was contended that the damages were excessive because, before this injury, Winkler was suffering serious consequences from an accident which happened to him about five years before. The cause of that accident was not explained, but it appeared that he received a blow on the left side of his head, and he admitted that he had one spell of epilepsy apparently traceable to it. Other witnesses testified to having seen him have as many as a dozen epileptic fits during the five years preceding, but the evidence showed that they were not frequent, were of short duration, and, with perhaps one exception, there was no interference with the performance of his duties as conductor. In the injury here complained of he received a depressed fracture of the skull on the right side of his head. From January 3, the time of the accident, to January 26, when he returned to work, he was under the care of a physician most of the time, and from then until October he worked most of the time. He then had to give up his work entirely because of the increasing frequency and severity of the epilepsy. Medical testimony showed that after this last injury each spell would affect him for several days; that he became extremely nervous, and lost weight; that he had a twitching and jerking of the muscles in his face and jaws, and impediment in his speech, and the neck muscles had a certain amount of paralysis numbness; that his sight and hearing were impaired, and that his mentality had become very weak. A physician who examined him a few months before the accident, and again in December following, attributed the origin of the epilepsy to the old injury on the left side of the head, but said that the last injury on the right side had greatly accentuated the trouble. Under all the evidence, the court is unwilling to say that the verdict was excessive.

In the second case, wherein the plaintiff Roemer, in attempting to descend from the top of a freight car, was precipitated to the ground by a handhold giving way, the Court of Civil Appeals of Texas says that the case was peculiar, and there was presented to the jury a great mass of testimony pro and con on the question of whether plaintiff Roemer feigned the symptoms of epilepsy or whether he really suffered from terrible convulsions. This question was solved in his favor, and the court must take it for granted that he was afflicted as he claimed to be. If the testimony in his favor was true, at the age of 27 he received injuries which made him an invalid for life, and his affliction was such as to cause him constant dread, mental depression and much suffering. The court cannot say that a verdict of $20,000 in his favor was excessive, and a judgment for that amount is affirmed. The testimony of a physician was admissible, although he had great difficulty in determining whether he merely suspected that the plaintiff's fall and injury caused the condition in which he found him, or whether it was his opinion that such was the case, but finally stated that it was his opinion.

Hospital Not Liable for Death from Smallpox

(Jones vs. Sisters of Charity of the Incarnate Word (Tex.), 173 S. W. R. 639)

The Court of Civil Appeals of Texas affirms a judgment in favor of the defendants, whom the plaintiff had sued for damages for the death of his wife, who died from smallpox after she had been placed in the defendants' hospital to have an operation performed on her. The court says that, among the facts established by the undisputed evidence, it appeared that a physician had advised that it was necessary to have the operation, whereupon Mrs. Jones' son asked the physician to make arrangements to take his mother to the defendants' hospital. This the physician did, and notified the son, who then took his mother to the hospital, where they were met by one of the Sisters, and Mrs. Jones was given a room in a new building which had been recently added to the hospital, with which it was connected. At that time there was a smallpox patient on the opposite side of the hospital, and on a different floor from that on which Mrs. Jones was placed. The Sister who received Mrs. Jones did not inform her or her son that there was a case of smallpox in the hospital, and they were both ignorant of that fact; but the physician, who acted for Mrs. Jones and her son in making the arrangement with the hospital authorities, knew when he made the arrangements of the existence of the case of smallpox in the hospital. Other cases of smallpox thereafter developed, and, on the fourteenth day after Mrs. Jones was operated on, and when she was fully convalescent from the operation, she was stricken with smallpox, and died from that disease in a few days. However, there had never been a case of smallpox in the room, or in the portion of the hospital in which Mrs. Jones was placed, and no case except hers developed in that portion of the building. The court agrees with the trial judge that the facts were not sufficient to require the submission to the jury of the question of the defendants' liability for damages for the death of Mrs. Jones. There was no evidence of any intentional concealment on the part of the hospital authorities of the existence of the case of smallpox. Mrs. Jones' physician, who knew of the existence of the smallpox therein when he made the arrangements for her to enter the hospital, evidently thought it perfectly safe for her to go there, or he would have advised her to go elsewhere to be operated on. The health officer of the city, who gave directions as to the quarantine of the first patient, did not prohibit the reception of other patients in the hospital. The

court cannot see how the Sisters could be held negligent for doing that which the most eminent medical authorities, with a full knowledge of the situation, regarded as safe. The plaintiff's wife in some unaccountable way may have contracted the disease from cases which occurred in the hospital, but the hospital authorities could not, in the circumstances, have reasonably anticipated that she would contract the disease, and could not therefore be held to have been guilty of negligence in failing to inform her when she applied for admission that there was a case of smallpox in the hospital. The trial court instructed the jury to find a verdict for the defendants, and rendered judgment in accordance therewith, which judgment should be affirmed.

A Rupture Caused by Strain is an Accident or Untoward Event

(Poccardi vs. Public Service Commission (W. Va.), 84 S. E. R. 242)

The Supreme Court of Appeals of West Virginia holds that a rupture caused by a strain while at work is an accident or untoward event, arising in the course of employment, and compensable under the workmen's compensation act. Proof of apparent previous good health, a heavy and unusual lift in the course of work, discovery of the rupture on the second day thereafter, death from surgical operation for relief thereof, and opinion of the operating surgeon that the rupture was caused by the lifting, is sufficient to establish accidental injury in the course of employment, within the meaning of said act. The court says that, responding to medical criticism of the theory of rupture by strain or exertion, the Washington Industrial Insurance Commission has adopted rules requiring proof, in cases of claims predicated on hernia: (1) That its origin was recent; (2) that it was accompanied by pain; (3) that it was immediately preceded by accidental strain in hazardous employment; and (4) that it did not previously exist. Similar rules have been adopted by the commission. Notwithstanding the criticism calling forth these rules, they impliedly admit possibility and probability of rupture from a strain, when the strain and rupture are in close relation. So does an article by the attorney for the Michigan compensation board, published in the National Compensation Journal, brought to the attention of the court by the brief for the commission. Both the rules and the thesis admit the English proposition that an internal injury, resulting from a strain while at work, is an accident, within the meaning of the act, and their limitations or restrictions on proof of the fact have not been judicially approved.

May Inquire About Angle at Which Roentgenograms Have Been Taken

(Baltimore & Ohio Railroad Co. vs. Whitacre (Md.), 92 Atl. R. 1060)

The Court of Appeals of Maryland, in affirming a judgment for damages for personal injuries in favor of plaintiff Whitacre, says that several exceptions were taken relating to the taking of a roentgenogram of the hip bone, which was claimed to have been fractured—whether the angle at which taken would or would not tend to disclose or conceal any such fracture. Evidence had been given by physicians of the fact of fracture, discovered by manipulation; but the use of photography in cases of this character is now so universally recognized that it is properly regarded as evidence of the strongest sort in any such case, and yet, as is well known, the lights or shadows produced by the angle of light may make a material difference in the appearance. It was therefore entirely proper that the witness should be fully examined on this point.

Mistakes.—The cynical philosopher laments the pity that in life we only get our lessons when they are of no use to us. It is worth while, nevertheless, to keep burning brightly that purifying fire, the fear of making a mistake, remembering in all humility that most mistakes are in reality avoidable, avoidable simply by method, the harness without which only the horses of genius can travel.—Adolphe Abrahams, *Practitioner*, London, March, 1915.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, SAN FRANCISCO, JUNE 21-25.

American Academy of Medicine, San Francisco, June 25-28.
American Association of Anesthetists, San Francisco, June 21.
American Climatological and Clin. Association, San Francisco, June 18-19.
American Laryn., Rhin. and Otol. Society, Chicago, June 15-16.
American Ophthalmological Society, New London, Conn., July 6-7.
American Society of Tropical Medicine, San Francisco, June 14-16.
American Surgical Association, Rochester, Minn., June 9-11.
Arizona Medical Association, Prescott, June 17-18.
Maine Medical Association, Poland Springs, June 9-10.
Massachusetts Medical Society, Boston, June 8-9.
Montana State Medical Association, Bozeman, July 14-15.
Nat'l Assn. for the Study and Prev. of Tuberculosis, Seattle, June 14-16.
Nevada State Medical Association, Reno, June 17-19.
New Jersey Medical Society, Spring Lake, June 22-24.
North Carolina State Medical Society, Greensboro, June 16.
Washington State Medical Association, Tacoma, July 20-22.

AMERICAN NEUROLOGICAL ASSOCIATION

Forty-First Annual Meeting held at New York, May 6-8, 1915

The President, DR. GEORGE W. JACOBY, in the Chair

Postnatal Growth of the Brain Under Experimental Conditions

DRS. H. H. DONALDSON, S. HATAI and KING, Philadelphia: The general results of studies on the rat's brain are applicable to the human brain. Postnasal increase in the weight of the brain is due almost entirely to the enlargement of cell elements already present at birth. The increase in brain weight between birth and maturity is, in the rat, about ninefold. This corresponds to a doubling on the average of the initial diameters of the cells. Increase in size is most evident in the cell bodies of the neurons, but the formation of the myelin contributes more than any other single process to the increase in weight. Under all experimental conditions, the proportional weights of the divisions of the encephalon remain the same (except in the case of the bulbi olfactorii and flocculi). The conditions under which studies have been made are here grouped in accordance with their general effects on brain weight: 1. Unfavorable conditions. Domestication; some defective diets; disease (lung disease). 2. Indifferent conditions. Quantitative underfeeding with wholesome diets; some defective diets; inbreeding; gonadectomy. 3. Favorable conditions. Highly varied diets; exercise. Conclusions and applications.

Relation of Structure and Function in the Nervous System

DR. STEWART PATON, Princeton, N. J.: The first period of life is that preceding the incidence of the nervous system as an active factor in the mechanism of adjustment. It is characterized by a few responses which are primitive in character. Only in the lower vertebrates do we find that any movements of the body take place during this primitive period of embryonic life. We have a very delicate and fairly defined proof that the nervous system is beginning to play its rôle. We have another important sign in the incidence of neurofibrillation. The appearance of the neurofibrils is probably one of the finest indications that we have of the incidence of function of the nervous system. The heart beats have begun and very probably are initiated without the interference of the nervous system. The heart may be looked on as an elaboration of a function which exists in chemical functions. As soon as the nervous system comes in, a great change takes place. What do we find in the nervous system at this time? We find something very striking indeed, and I believe something that throws great light on practical neurologic problems. In the first place, we find that an enormous preparation has gone on in the whole system preceding the incidence of function. It is really almost startling when one sees the great preparation in the spinal cord, the middle and the upper part of the medulla which has taken place in the differentiation of tissue. The most striking sections you will find in the region of the development and persistence of the ancestral

type and enormous development of the cranial nerves. Undoubtedly these developments of the cranial nerves are transmitted to us from our ancestors lower down in the scale. Then if we go a little higher up in the medulla there is a very great development of the trigeminus, and in the embryo at this stage you can readily trace three branches coming off from the trigeminus. If we go one step higher in the medulla we come to the third nerve, which has no possible use at this stage of the life of the embryo, and yet is fully developed. What does this mean? The other point is that if we take this embryo just before the responses have begun, we find some very interesting conditions that I think will interest you practical neurologists. We find that such organs as the heart are definitely supplied with neurofibrils. You can trace out the whole cardiac mechanism. In addition to that you will find that an organ like the thymus has an enormous nerve supply. At an early stage, before the reactions of the body begin, the thymus has a definite and really an enormous nerve supply.

DISCUSSION

DR. JAMES J. PUTNAM, Boston: I would ask Dr. Paton whether he would be willing to accept all the conclusions to which the view that structure does really and truly precede function would logically lead. It is doubtful whether he would be willing to accept the conclusion that everything we know, learn and think as human beings, love of justice, honor and truth, are really nothing but the expression of structure, which itself is nothing but the expression of a rhythmic chemical process taken in the usual meaning of that term. It seems to me that is the conclusion to which we must come. Either structure precedes function or function precedes structure. From our own observation of ourselves, of thoughts and wills, we would think that function precedes structure. These researches of Dr. Paton's seem to indicate the reverse.

DR. PHILIP COOMBS KNAPP, Boston: One simple illustration that structure must necessarily precede function can be brought out from this fact: We are conscious of our functions. We are by no means conscious of the structure. The absolute necessity of the structure preceding function is shown by the fact that unless we have a proper visual apparatus, the person remains blind and never can see. But any one who has experience in teaching ought fully to realize that it is not the vague transcendental desire to know which accomplishes the acquisition of knowledge, but rather the ability of the student to grasp the idea and to develop his knowledge. Experience in teaching shows that in spite of the best-developed schemes of instruction, in spite of every desire on the part of the pupil to learn and in spite of every effort of the teacher, a certain percentage of the pupils, by reason probably of a defect of structure, are going to remain hopelessly stupid, a condition against which one regards oneself as powerless.

DR. STEWART PATON, Princeton, N. J.: So far as guinea-pigs are concerned, my statements are true. The criticism was very well taken about the possibility of function preexisting. Of course I had only a few simple reactions in mind. As to the other higher reactions, I think it will be a long time before we get to them. I hope my hearers will not take what I have said dogmatically as applied to the human being, and think of me only as an enthusiast in regard to the guinea-pig.

Ventricular Hemorrhage

DR. ALFRED GORDON, Philadelphia: I have seen seven cases of extraventricular hemorrhage and five cases of primary intraventricular hemorrhage. Erosions of the walls of the ventricles, rupture of the vessels of the choroid plexus and miliary aneurysms were found in the five cases. In all the cases, profound changes of all layers of the walls of the vessels and especially in the intima were present. I would call special attention to the following symptoms: sudden onset without premonitory symptoms, profound coma at the outset and continuing for several days without improvement, absence of genuine paralysis, absence of rigidity and contracture during the days following the seizure, and absence of the toe phenomenon. All these symptoms were so uniformly present in every one of the five cases of primary ventricular hemorrhage that pathognomonic inferences are permissible. In three cases there was a displacement of the brain tissue on the side opposite the hemorrhage. It is possible that the profound comatose state was due to this factor, and hence a decompression on the sound side may be of benefit. Accordingly, an operation was performed in one case, and considerable amelioration of the comatose state was obtained. Unfortunately, the other patients did not give their consent for surgical intervention.

DISCUSSION

DR. PHILIP C. KNAPP, Boston: I have seen a number of cases of intraventricular hemorrhage, most of them, however, of the secondary variety. I can hardly agree with the symptomatology which Dr. Gordon has given. In the ordinary symptomatology of the case, it has differed very little from that of an ordinary case of ventricular hemorrhage, excepting that the coma has been a little more sudden perhaps, and naturally distinctly more profound. In practically every case there have been distinct signs of hemiplegia as we ordinarily detect them in a person who is comatose. The one striking feature, however, in all the cases of ventricular hemorrhage has been that, although the duration of life is too short for contracture to develop, there has been a distinct rigidity of both sides. In no case have there been generalized convulsions. In a number of cases confirmed by necropsy I have felt that the rigidity and twitchings of the limbs are so characteristic as to warrant the diagnosis of intraventricular hemorrhage.

DR. ALFRED R. ALLEN, Philadelphia: At Dr. Spiller's instance a number of years ago, I studied in his laboratory the cases of ventricular hemorrhage with particular reference to the rigidity and twitchings. As I remember the specimens, in Dr. Spiller's cases they did not bear out the theory that of necessity there was any relation between rigidity and twitchings and ventricular hemorrhage.

DR. ERNEST SACHS, St. Louis: It is essential to recognize these cases, and if they are recognized, it seems that it is misdirected effort to do anything but try to approach the hemorrhage itself. To try merely to relieve pressure without trying to remove the extensive hemorrhage which is present seems unwise. I did not hear Dr. Gordon mention one symptom which has been described as rather characteristic of ventricular hemorrhage, and that is excessive temperature. I have been rather interested in this point from the physiologic point of view. It has been asserted by a number of experimental physiologists that this symptom is due to irritation of the fine fibers that lie along the floor of the ventricle. I have never been able to substantiate that, and am rather anxious to hear whether these cases, if they are pure ventricular hemorrhages, show that symptom.

DR. E. E. SOUTHARD, Boston: Relative to the hyperpyrexia in ventricular hemorrhage, there are sequestered cases in which the rupture of the vessel is of infectious origin. About ten years ago I had occasion to report two cases of bacterial apoplexy in which the organism of the streptococcus was found; these hemorrhages were from erosions in the wall.

DR. ALFRED GORDON, Philadelphia: In reply to Dr. Knapp's remarks with reference to hemorrhage, I would state that, as Dr. Knapp saw only secondary hemorrhages, his remarks in reference to this have no bearing on the subject discussed by me because I spoke particularly of primary hemorrhage. The five cases of the lateral ventricles alone were all uniformly accompanied by paralysis, no toe phenomenon and marked patellar reflex on the paralyzed side. In reference to the question of temperature, the primary case has at first no rise of temperature.

Intracranial Telangiectasis

DR. ERNEST SACHS, St. Louis: I report two cases, both having jacksonian convulsions, but no other evidence of intracranial pressure. The eyegrounds were normal and the Wassermann reaction negative. In the one case, on the

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opening of the dura, a huge bluish mass of vessels protruded, which were so dense in places that the underlying cortex could not be seen. This mass lay over the motor area. There were no branches connecting with the dural vessels. In the second case the process was entirely confined to the dura, there being connections, however, between these vessels and the cortical vessels. Ligation of all these vessels relieved the symptoms and resulted in a cure. There are a number of cases in the literature which resemble one or the other of these cases, but they have usually been called angioma. A study of these cases, however, has led me to believe that these are not true angiomas but congenital tumors—telangiectasis. It seems essential to distinguish between true angioma, a neoplasm, and these congenital conditions. When reclassified they constitute a group which must be kept in mind in every case of jacksonian epilepsy. The clinical picture is quite a definite one: 1. Attacks of jacksonian epilepsy occurring at long intervals in nonsyphilitic young persons. 2. Unconsciousness of long duration. 3. No evidence of increased intracranial pressure. 4. A very slow progression of symptoms. 5. Telangiectases on the head or face. For this condition I suggest the name "intracranial telangiectasis."

DISCUSSION

DR. M. ALLAN STARR, New York: The distinction Dr. Sachs has made is an exceedingly important one and should by all means be adopted. I erroneously, as I now see, reported some years ago as an angioma a case quite similar to the second case of Dr. Sachs. That was a wrong classification; it was a case of telangiectasis. The case was an interesting one clinically. It came to operation and Dr. McCosh tied off these vessels. The patient was a boy of 17 who was brought to me from Charleston, S. C., to the Presbyterian Hospital because he was suffering from very peculiar attacks. These attacks had occurred for a year. They had begun at the age of 15. They were characterized by a sudden severe, intense pain in the pyramidal region on the left side. The pain was located over an area the size of a half dollar. The attack would begin gradually, and for three days he was in the most intense agony, and the agony was so great that by the end of the second day he was in a state of acute mania. He was entirely uncontrollable, fighting every one who came near him, and these attacks of mania had been increasing up to the time he was brought to New York. He suffered from these attacks at two weeks' intervals. No diagnosis had been made; there were no localizing signs. Between the attacks he was entirely normal in every way. There was no choked disk, and the condition was quite a mysterious one. The attacks appeared to resemble in a way attacks of cortical epilepsy, although there was absolutely no spasm. There was an area of tenderness over the skull where he felt pain, which remained between the attacks. McCosh decided it was worth while to make an exploratory trephining operation. He was trephined over the area of tenderness, and the dura was apparently normal; but on cutting through the dura there was found one of these conditions of telangiectasis. There was a mass of veins on the surface, and they resembled more a mass of fishworms than anything I could think of. The mass was tied off. The boy made a prompt recovery. He had temporarily a condition of complete astereognosis with ataxia of the right hand which, after three days, passed away. I heard from him two and three years after the operation, and he had been perfectly well up to that time.

DR. ALFRED GORDON, Philadelphia: In the proceedings of the Neurological Society of Philadelphia, published in the *Journal of Nervous and Mental Diseases* several years ago, you will find a description of a case almost identical with that of Dr. Sachs. It was that of a young man of 30, who for fourteen years, if not more, had attacks of convulsions in the right leg alone; never in the arm. The attacks were accompanied by loss of consciousness. Dr. DaCosta opened his skull on the opposite side in the upper portion and in the area corresponding to the center, and he found a square shaped appearance of the vein, surrounded by four veins as large as a little finger. The veins were ligated, and the patient made a good surgical recovery. He developed a mild asterognosis in the right arm, and the convulsions ceased for a while. About six weeks later the convulsions returned. The patient later on came to see me again, and said that on exceedingly rare occasions he would have an attack.

DR. E. B. ANGELL, Rochester, N. Y.: I had a case of jacksonian epilepsy develop in a youth of 16 or 17. The attacks were so characteristic that it was easy to locate the lesion. The boy was operated on by Dr. Zimmer of Rochester very successfully. In this case we found the same condition as that described by the speakers. This patient recovered and has stayed well for fifteen years.

DR. J. RAMSAY HUNT, New York: Since Cushing's paper of a few years ago, I have been on the lookout for such cases with intracranial complications. I recall three cases. One was an old infantile hemiplegia in which there was a contralateral hemiplegia with epilepsy. The other case was that of a man who had a trigeminal nevus and who in his fiftieth year developed epilepsy. The epilepsy, however, was not of the jacksonian type. It was interesting, however, that always before the attack of epilepsy he would have a period, sometimes several hours, of severe pain directly beneath the trigeminal nevus, so there may have been in such a case a connection between his epilepsy, which was generalized, and the vascular lesion of the dura. One man I saw had a congenital bunch of veins, and all through his life had been subject to periodical headaches somewhat suggesting migraine. He states that before these headaches these veins would always begin to swell. Of course the relationship between the veins and the headaches is obscure, but I thought it always well to bear in mind the possibility of intracranial complications in these cases of trigeminal nevi.

Mental Disturbances in the Feebleminded

DR. WILLIAM N. BULLARD, Boston: The character of attacks of mental disturbance in the feebleminded is quite distinctive. In a person who shows only the ordinary conditions of feeblemindedness or idiocy, there occurs without any exciting cause sufficient under ordinary conditions to produce such an effect a sudden outburst of violence or temper. They scream, strike, kick, bite, destroy clothing and furniture and often require forcible restraint; they are obscene and profane. The attack lasts only one or a few days. There are usually prodromal symptoms such as listlessness, indifference and unusual actions.

Case of Wilson's Disease—Progressive Lenticular Degeneration

DR. FREDERICK TILNEY, Brooklyn: This case presented a typical syndrome of progressive lenticular degeneration, as described by Wilson. It ran a moderately acute course, terminating in death in fifteen months. The outstanding clinical features were the marked hypertonicity of the somatic musculature and the evidence of extreme toxicity. A preliminary report of the pathologic findings in the brain is given, and with this the histologic findings of the spinal cord, liver, spleen, kidney, thymic remains, thyroid, heart, lungs and suprarenal bodies.

DISCUSSION

DR. H. H. HOPPE, Cincinnati: I had a case in a woman of 45 which presented quite a number of the features of Wilson's disease. There was hypertonicity associated with constant athetoid movements. The legs were constantly in a state of motion and the feet inverted. There are no pathologic changes in the reflexes, excepting that they are increased. The woman's mental state is practically normal, excepting that she is constantly in a state of rather pleasant frame of mind.

DR. A. R. ALLEN, Philadelphia: Wilson has so limited his disease, so exactly described what it is pathologically as well as clinically, that it is very difficult to make a diagnosis of Wilson's disease pure and simple, outside of the necropsy room.

(To be continued)

ASSOCIATION OF AMERICAN PHYSICIANS

Thirtieth Annual Meeting held at Washington, D. C., May 11-13, 1915

The President, DR. S. J. MELTZER, presiding

SYMPOSIUM ON CIRCULATION

Important Contributions to Clinical Medicine During the Past Thirty Years from the Study of Human Blood Pressure

DR. THEODORE C. JANEWAY, Baltimore: In Flint's "Practice of Medicine," published in 1886, there is a passage referring to an increase of blood pressure in cases of small granular kidney and in cases of apoplexy. This showed an appreciation of the problem from facts learned by the unaided senses. A little later, Delafield, in this association, spoke of cases with arterial narrowing, with increased intravascular tension, but no measurements of pressure were referred to. In 1889, Stengel read a paper on athletics, but there was no mention made of blood pressure observations. In 1903, Cabot presented observations on blood pressure in man, and in 1904, there was a second paper by Cabot on observations of blood pressure by the sphygmomanometer. Since then the programs have always contained some titles bearing on this subject. What has been the real gain? There has been developed an easily available method by which any physician can gain by measurement essentially accurate information concerning both the systolic and diastolic pressures in the arteries. It has made a clinical entity of essential hypertension, of cardiovascular disease. It has disclosed the high pressure of the eclamptic state, and the low pressure of amyloid kidney. It has revealed the curious fact that in aortic regurgitation the pressure is higher in the leg than in the arm.

The study of average human blood pressure in connection with life insurance statistics has constituted an important and distinctively American line of research; Fisher's statistics are most important and indicate the normal increase of blood pressure with age. The tendency is to agree with Lauder Brunton and Cooke that 135 mm. to midlife and 145 mm. thereafter mark the limits of normal maximum variations in man. We have learned, in individual cases, however, not to view hypertension with so serious a prognostic eye. From the therapeutic standpoint, the recognition of the greater importance of cardiac conservation and adequate circulation than reduction of abnormally high pressure has been a very important contribution to our knowledge. The beneficial effect of digitalis in maintaining compensation in these states is also a valuable contribution. The study of the effects of caffein, strychnin and other allied heart stimulants in connection with observations of the blood pressure has resulted in disillusionment with respect to the value of these agents. Perhaps the most important of all the contributions to clinical medicine growing out of the study of human blood pressure have been the theoretical considerations having to do with the origin and explanation of the degenerative cardiovascular diseases, and these considerations must continue to be the basis of further study.

Dyspnea in Cardiac Diseases

DR. FRANCIS W. PEABODY, Boston: Acidosis plays an insignificant part in the dyspnea of simple cardiac diseases. Acidosis is a more important factor in the dyspnea of cardiorenal disease. The second conclusion might be expected from the facts that acidosis is often present in cardiorenal disease and that dyspnea is often present in the absence of cyanosis. To these facts may be opposed the objections that the acidosis is usually slight and that the dyspnea is clinically different from the hypnea of diabetes; in cardiorenal disease the dyspnea can be compared with exercise dyspnea.

In making our observations, a respirator was used and by rebreathing the carbon dioxid content of the respired air was increased. The respiratory products were measured and the stimulating effect of carbon dioxid was noted. Respiration in most persons is increased so that pulmonary ventilation is doubled when the carbon dioxid reaches 4.5 or 5 per cent. In mild cardiac valvular disease, subjects behave in precisely the same way; in cardiorenal subjects, however, pulmonary ventilation is doubled when the carbon dioxid reaches 2.5 or 3 per cent. This difference in behavior is explainable on the basis that the reaction of the blood is more easily disturbed in cardiorenal disease on account of the high acidity induced by the acidosis. The experiments were further carried on to note the influence of alkalies in controlling the dyspnea.

Stokes-Adams Syndrome, with a Remarkable Delay in the A-V Conduction Time

DR. W. S. THAYER, Baltimore: The woman on whom the observations were made was 50 or 55 years of age, the mother of several children. She had suffered with attacks of dyspnea for several years. After a series of attacks characterized by intermittent pulse, she became unconscious and the pulse became very slow. When I saw her she had a perfectly regular heart beat, rate 35 per minute. Examination with polygraph indicated that she was suffering from a total bradycardia with the A-V wave 0.7 second in duration. Electrocardiograms were made which upheld the suspicions excited by the polygraphic tracings, namely, that the heart was beating with one auricular to each ventricular contraction, and with the most remarkably prolonged p-r period of 0.68 second. After exercise, the pulse rate fell from 35 to 28 per minute, and by polygraphic tracings the A-V wave was now found to be 0.8 second, and later the A-V wave reached the unprecedented duration of nearly 0.9 second. It was desired to ascertain the effect of atropin, but the patient was hypersensitive to the drug, and its use had to be abandoned. There have been a number of similar seizures since, but the patient has utterly refused to allow further study. This case at first glance would seem to be one of ordinary heart block with dissociation; but on study it was found to be one of total bradycardia. So far as known, there is on record no other case with such a long pause between the auricular and ventricular contractions. Two polygraphic tracings taken six weeks apart with identical curves could hardly be a coincidence.

Present Status of the Electrocardiographic Method in Clinical Medicine

DR. ALFRED E. COHN, New York: The electrocardiographic method has been used in clinical medicine for only ten years. It records the electrical discharges of the heart during its activity. The form of the curve remains constant through the greater portion of life. Any change in it represents a change in the heart or in its position. The normal curve depends on the orderly performance of four chief functions: (1) On the orderly spread of electrically excited states; (2) on the orderly sequence of auricles and ventricles; (3) on the orderly coordination of the muscular mass of each pair of cavities; (4) on the usual disposition and volume of the muscular mass of each pair of cavities. The abnormal electrocardiogram depends on a disturbance of one or more of these functions. Under the first head are grouped both auricular and ventricular extrasystoles, paroxysms of tachycardia, and changes in the T wave; under the second head, heart-blocks of various kinds; under the third head, the split P wave when there is auricular asynchronism in mitral stenosis, auricular fibrillation and flutter, ventricular asynchronism, and ventricular fibrillation; under the fourth head, the changes due to hypertrophy and dilatation and dextrocardia.

DISCUSSION OF SYMPOSIUM

DR. L. F. BARKER, Baltimore: The papers show very clearly the revolution in our ideas concerning the pathology of the circulatory apparatus. Electrocardiography is a method of investigation which has been so illuminating as almost to render the phlebogram and cardiogram merely historical. The arrhythmias by this method of study have been cleared up; the heart blocks are now well understood because of information derived from it; we have come also to understand auricular fibrillation—the 'delirium cordis" of

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older writers. By the method we have come to understand also that condition known as auricular flutter, the senile tachycardia, and we have had elucidated the controlling influence of digitalis on it. The electrocardiograph owes its greatest value perhaps to the fact that any unusual curve recorded by it from the human heart may be reproduced experimentally in animals, and thus our ideas may be cleared by demonstrable facts and we no longer need to depend on theory.

DR. JAMES B. HERRICK, Chicago: I wish to ask Dr. Cohn if there is any definite explanation of inversion of the T wave in Leads 1 and 2? There may often be seen such an inversion in various pathologic conditions, and its occurrence is usually regarded as of bad prognostic omen; why should this be so? I wish to ask also if the split P wave, seen in cases of mitral stenosis, might not at times be seen in curves from normal hearts? May it not be due to asynchronism of the ventricles?

DR. ALFRED E. COHN, New York: The T wave is sometimes inverted in Leads 1 and 2 without necessarily being very significant; but it is seen so regularly in so many very serious lesions that it is usually regarded as a bad prognostic sign. It may not invariably be a bad sign, however, because it may appear in a tracing from a case in which, if many tracings were taken, the majority would not show the inversion.

SYMPOSIUM ON THE DUODENUM

Physiology and Pathology of Duodenal Mucous Membrane

DR. THOMAS R. BROWN, Baltimore: The various problems which must be solved in studying the mucosa of the duodenum may be inferred by considering the events that here go on, depending on the simultaneous presence of three juices, all necessary and all secured by intricate reflex secretion. The extreme complexity of the physical and chemical events going on makes the problem important and difficult. Atony and spasm of the duodenum may both be functional. The hypothetic secretory function of the duodenum is explanatory of the stormy symptoms seen in high intestinal obstruction. The probable immediate cause of duodenal ulcer is the digestive action on the mucosa of trypsin and other proteolytic ferments; but what accident befalls the mucosa to account for this invasion? This has not been demonstrated. Hyperacidity may account for the accident or the action of some vagatonin in psychoneurotic individuals; or some infectious process may underly the event.

Use of the Duodenal Tube for Diagnosis and Treatment

DR. FRANKLIN W. WHITE, Boston: The clinical use of the duodenal tube (introduced by Einhorn and by Gross in 1909-1910) has proved its value in a limited field. I used the tube in eighty-six cases, in sixty-six for diagnosis; in twenty for treatment. A fluoroscopic study of the technic of the introduction of the duodenal tube showed that by placing the fasting patient successively in simple postures, the tube may be introduced into the duodenum within half an hour in a majority of cases in which organic stenosis is not present. Spasm of the pylorus, and atonic and hook-shaped stomachs may delay the tube. A heavy (Gross) tube tip enters the duodenum more rapidly than a light (Einhorn) tube tip. A small tube No. 8 French with a heavy tip of at least 100 grains' weight (Palefski) is best of all for diagnostic work. It is not difficult to tell the position of the end of the tube. It is as safe as an ordinary stomach tube.

In diagnosis, examination of the duodenal contents was most useful in diseases of the pancreas and in cases of chronic jaundice. It is the only method of directly obtaining the secretions of the pancreas and liver. There is considerable normal variation in the pancreatic ferments; only absence or marked diminution has much value in diagnosis. Examination of the feces in some cases was almost equally valuable and simpler; in others the examination of the duodenal contents was much more valuable. In treatment the duodenal tube (Einhorn) was useful in a limited group of cases of peptic ulcer. (It was used only in cases without organic obstruction and in cases resisting ordinary medical treatment.) It may be used to improve the patient's condition before operation, in ptosis and atony with delay in emptying the stomach and vomiting, and it has considerable value in cases of persistent vomiting of nervous and toxic type. Here an unusually long tube is desirable to prevent regurgitation into the stomach. It was used in two cases of cancer of the esophagus (stomach feeding). Almost every case was improved by duodenal feeding, and in a considerable number the symptoms stopped. It is superior to rectal feeding, as patients keep their weight or gain. A vacuum bottle as reservoir and the Murphy drop method is preferred to a syringe for introducing food.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Albany (N. Y.) Medical Annals

May, XXXVI, No. 5, pp. 201-266

1 Diagnosis of Cerebral Tumor. L. Archambault, Albany.
2 Pathology of Brain Tumors. W. D. Ayer, Albany.
3 Treatment of Brain Tumors. D. Baker, Albany.

American Journal of Insanity, Baltimore

April, LXXI, No. 4, pp. 685-839

4 *Two Cases of Typhoid with Permanent Memory Defect. D. K. Henderson, Baltimore.
5 Psychic Factors in Mental Disorder. M. A. Harrington, White Plains, N. Y.
6 *Thymus and Pituitary in Dementia Praecox. S. D. W. Ludlum and E. P. Corson-White, Philadelphia.
7 *So-Called Mixed States and Atypical Forms of Manic-Depressive Insanity. H. D. Singer, Kankakee, Ill.
8 Behavior Chart in Mental Diseases. E. J. Kempf, Baltimore.
9 *Colloidal Gold and Other Tests Applied to Spinal Fluid in Psychiatry. P. G. Weston, I. A. Darling and P. B. Newcomb, Warren, Pa.

4. **Typhoid with Permanent Memory Defect.**—One of Henderson's patients had typhoid in 1910, followed by an indifferent placid state, with outbreaks of irritability, and a marked persistent memory reduction for recent events. The other patient had typhoid in 1903, followed by a marked defect in memory for recent events, which has been persistent, and followed later by an unstable, variable, emotional condition with vague ideas of persecution.

6. **Thymus and Pituitary in Dementia Praecox.**—In a group of cases of dementia praecox examined by Ludlum and Corson-White, Abderhalden reactions were obtained in some instances to testicle and pancreas; and in others to testicle and thyroid; while in still others no reaction could be secured. In the individuals that gave the reactions to testicle and pancreas, there were observed physiologic symptoms of the same type as those found in animals from which the thymus had been removed. In examining the blood of animals whose thymus had been removed, the same reactions were obtained as in the cases of a certain group of patients, indicating that in this group there exists a disease entity. With regard to the pituitary, there were a considerable number of cases with the symptoms of dyspituitarism that improved with pituitary extract. There were also a group of cases of hyperpituitarism that improved with the opposite organic extract, which is the Brown-Séquard fluid.

From a comparatively large number of examinations in cases of pregnancy, cancer, sarcoma, mental disease and experimental animals (examinations carefully repeated and doubly controlled), the authors feel that the Abderhalden reaction is specific; that is, that it represents a definite specific phenomenon. Whatever the ultimate explanation of the phenomenon may be, whether as Abderhalden suggests, it is due to the presence of a specific protective ferment, or, as Bronfenbrenner and Schwartz suggest, that it is an auto-

digestion of the serum by the specific removal of a normal inhibiting substance, probably the antitrypsin allowing the normal proteose to act—it is the expression of a specific phenomenon.

7. **Forms of Manic-Depressive Insanity.**—The essence of the manic-depressive reactions, according to Singer, is the occurrence of some appropriate affective attitude of the organism as a whole which is of purposeful character, abnormal because of its severity and duration and because there is no apparent external cause of its adoption. The so-called mixed states and atypical forms are not mixtures simply of certain traits, but represent affective oscillations colored by peculiarities in the make-up of the individual patient. Such modes of adjustment must be carefully studied and weighed in rendering a prognosis in any individual case.

9. **Tests Applied to Spinal Fluid in Psychiatry.**—This report is based on a study of 198 individuals suffering from different psychoses. In all 239 separate punctures and examinations of the spinal fluid, which, in addition to the "goldsol" test, were also subjected to the scrutiny of the Wassermann reaction, estimation of the globulin content by the Noguchi butyric acid method, cell count and volumetric approximation of albumin. In the cases (3) diagnosed clinically as cerebrospinal syphilis the Wassermann reaction on the spinal fluid was always positive and the colloidal gold test showed a reaction in the paretic zone. In paresis (34 cases) the colloidal gold test was always found positive in cases in which the spinal fluid showed a similar reaction to the Wassermann test, in addition to which one instance is noted in which the fluid Wassermann was negative, but a reaction in the luetic zone was obtained by the gold solution. In dementia praecox (98 cases), manic-depressive insanity (25 cases), arteriosclerotic dementia (17 cases), and epilepsy (12 cases), there was no positive Wassermann reactions on the fluid, and likewise no response to the gold solution in the typical "paretic zone." However, the latter reagent did furnish, in 8 cases of the 152 examined, a reaction within the minor limits of the "luetic zone."

In the unclassified psychoses (9 cases), the colloidal gold and the Wassermann reactions on the fluid ran a parallel course, except in one case, which showed a negative response to the Wassermann test on the fluid, but gave a gold reaction in the "paretic zone." This instance is clinically a possible case of paresis. The opinion is given by the authors that the colloidal gold reaction forms a useful adjuvant to the Wassermann, is apparently as reliable, and, in some instances, by reason of positive response in the absence of the Wassermann in clinically luetic cases, has seemed to point toward the possible appearance of a later positive Wassermann in the suspected individuals.

Annals of Ophthalmology, St. Louis

April, XXIV, No. 2, pp. 217-442

10 Question of Spontaneous Sympathizing Inflammation. J. Meller, Vienna.
11 Report of Series of Fifteen Hundred Cases of Errors of Refraction and Brief Analytic Consideration of Symptoms Presented. J. R. Newcomb, Indianapolis.
12 Case of Alternating Transient Monocular Blindness Ending in Complete Loss of Vision in Left Eye. H. M. Langdon, Philadelphia.
13 Resumé of Trachoma Bodies as Etiologic Factor in Trachoma and in So-Called Inclusion Blennorrhea. F. W. Alter and W. O. Bonser, Toledo.
14 Routine Refraction Problems. H. Woods, Baltimore.
15 Smith Intracapsular Operation: Answer to F. B. Tiffany. F. E. Auten, Belleville, Ill.

Annals of Surgery, Philadelphia

May, LXI, No. 5, pp. 513-640

16 Blastomycosis; Report of Four Cases. F. E. McKenty and D. Morgan, Montreal, Canada.
17 *Operative Treatment of Arterial Thrombosis and Embolism; Report of Three Cases. F. T. Stewart, Philadelphia.
18 *Gallstones. J. C. Hubbard and A. R. Kimpton, Boston.
19 Surgical Treatment of Gastrocoloptosis. J. Douglas, New York.
20 *Rôle of Gastro-Enterostomy in Treatment of Ulcers. F. Martin and A. H. Carroll, Baltimore.
21 Pathogenesis of Umbilical Hernia. A. V. Moschcowitz, New York.
22 *Cystic Dilatation of Vermiform Appendix; Report of Case. O. L. Castle, Kansas City, Mo.
23 Pylephlebitis Complicating Appendicitis; Report of Three Cases. E. A. Babler, St. Louis.
24 *New Method of Lateral Anastomosis of Blood Vessels and Operation for Cure of Arteriovenous Aneurysm. J. S. Horsley, Richmond, Va.
25 *Tongue-Depressor Gastro-Enterostomy Clamp. C. L. Gibson, New York.
26 *Prevention of Keloids in Scars by Underlining of Incisions with Strips of Fascia Lata. L. Freeman, Denver.
27 Rupture of Biceps Flexor Cubiti; Report of Eight Cases. E. G. Alexander, Philadelphia.
28 *Usefulness of Ventral Decubitus in Some Leg Amputations. R. Finochietto, Buenos Aires, Argentina.

17. **Operative Treatment of Arterial Thrombosis and Embolism.**—In one case cited by Stewart a diagnosis was made of an embolus in the abdominal aorta at the origin of the left common iliac artery. Pulsation of the abdominal aorta could be made out by palpation. Pulsation could not be felt in the external iliacs, or in any of the arteries in the lower limbs. The right foot was black and shriveled, the lower two-thirds of the right leg purplish, with loosening of the epidermis and bleb formation. The left leg was painful, tender, useless, warm (because of the presence of external heat) and pale, except over an indurated area, about 2 inches in diameter, just external to the middle of the tibia, in which the skin was reddened and edematous.

The abdomen was opened in the median line below the umbilicus, the small intestine segregated in the right side of the abdomen, and the sigmoid pressed to the left. The iliacs were motionless; the aorta pulsated to a point near the bifurcation, at which point it was hard. The posterior parietal peritoneum was incised, and a silk ligature passed beneath the aorta at a point 1½ inches above the bifurcation. This ligature was not tied, but it was placed so that it could be tied in the event of bleeding that could not be controlled otherwise. While an assistant compressed the aorta with a finger, a longitudinal incision extending upward from the bifurcation for three-fourths of an inch, was made in the anterior wall of the aorta. After removing, in several pieces, a dark friable clot, evidently of recent formation, which lay beneath the incision and protruded into the left common iliac artery, the embolus itself was uncovered, and easily forced through the wound by pressure, from below upward, on the right common iliac artery into the orifice of which the lower end of the embolus had been driven. There were apparently no firm adhesions between the obstructing mass and the intima, which appeared to be smooth and undamaged.

After milking several more small fragments of clot from the left common iliac, pressure on the aorta was relaxed for an instant, in order to wash any remaining coagula through the wound, and the aorta closed with a continuous through-and-through silk suture, over which a second continuous suture, including the outer coats only, were inserted. The posterior parietal peritoneum was drawn together with a continuous suture of catgut, the abdominal wall with interrupted stitches of silkworm-gut. The operation, which lasted about an hour, had little immediate effect on the patient's general condition. On the third day after the operation death occurred from cardiac weakness and pulmonary edema. A necropsy could not be obtained.

18. **Gallstones.**—A study of 400 cases of gallstones enteri[n] the surgical wards of the Boston City Hospital in the years 1907 to 1913 (six years) was made by Hubbard and Kimpton. Only such cases were used in this study in which stones were found at operation, 226 cases, 55 males and 182 females. Pain of severe type was practically always the prominent symptom, occurring in 212 cases. The second prominent symptom was vomiting, present in 137 cases, or 62 per cent., varying from mild to severe, persistent and most distressing. Jaundice varying from a yellow discoloration in the eyes to a definite yellow tinge to the whole body is mentioned in 107 cases, or 48 per cent. The site of the stones is of special interest in these cases of jaundice. Of the 107 jaundiced persons 70 had stones in the gallbladder only; 25 had stones in the common duct only or in addition to stones in other portions of the biliary tract; 9 in the cystic duct alone, or in conjunction with stones elsewhere, and in 3 the stones are described as being in the "ducts." Chills occurred only 9 times.

The character of the stools was mentioned in but a few of the cases, in 14 clay or white, in 2 light colored. A mass in the abdomen was present in 49 cases with a questionable mass in 6 additional. Pus was present in the gallbladder in 28 cases. It was found in both contracted and distended bladders. A contracted bladder occurred in connection with a stone in the common duct more frequently than a distended bladder. Cholecystostomy was performed in 177 and cholecystectomy, complete or partial, in 24 cases. Pulmonary complications developed in 14 cases, and in a majority of these caused death. Thirty-one patients died in the hospital as a result, or in spite of operation. The end-results, not including those patients who died in the hospital, have been learned in 91 cases. Seventy-four, or 81 per cent., consider themselves well, cured by the original operation. Of this number, 5 qualify this statement by saying that they still have some indigestion. Four patients are having trouble, not apparently due to gallbladder disease. Three still have attacks of pain, etc., suggestive of gallstones, and one is "not well."

20. **Gastro-Enterostomy in Ulcers.**—According to Martin and Carroll, it can be shown roentgenographically that in man, as well as experimentally in animals, a patent pylorus tends to functionate notwithstanding the presence of a patent stoma; that gastric contents will leave via the stoma, and at first in large quantity, but that it is not a fact that the egress continues rapidly later.

22. **Cystic Dilatation of Vermiform Appendix.**—This is a rare form of appendix disease, available postmortem records showing it to be present in about 0.2 per cent. of cases. It is usually symptomless and benign, but may, on rupture, produce pseudomyxoma peritonei in every way similar to that of ovarian cyst origin.

24. Abstracted in THE JOURNAL, Jan. 23, 1915, p. 365.

25. **Tongue-Depressor Gastro-Enterostomy Clamp.**—Gibson uses three small pieces of wood, the ordinary wooden tongue-depressors, bound together by any suitable method, such as a strong artery clamp, or, if more convenient, a sterile rubber band. The tongue-depressors might be replaced by strips of cigar boxes. Both in experimental and clinical work, it has proved much more satisfactory than the Roosevelt, Bartlett and other clamps used for this purpose. Gibson has found it particularly satisfactory in doing a gastro-enterostomy, when it is desired to release the clamp in putting in the last mucous muscular suture and the final peritoneal suture. Removing the rubber band allowed the tongue-depressors to fall apart without further manipulation. By this method injury to the viscera is less likely to be produced. Two gastro-enterostomies and one entero-anastomosis have been successfully done with the aid of these clamps.

26. **Prevention of Keloids in Scars.**—A young woman consulted Freeman regarding the removal of a disfiguring scar resulting from an operation for tuberculous lymph nodes of the left side of the neck. It extended from the mastoid to the center of the clavicle and was as wide and as thick as one's thumb. It was fiery red and formed a conspicuous and mortifying deformity, as it stretched across the neck like a great "flying buttress." A strip of fascia lata was procured from the thigh, long enough to reach from the mastoid almost to the clavicle, with the head in the median position, and about as broad as one's finger. After thoroughly extirpating the scar and undermining the edges of the wound, the strip was spread lengthwise beneath the incision. It was then fastened to the under surface of the skin and fascia on one side, and to the deeper tissues on the other side, with a few sutures of fine catgut, thus permitting the union above it of the integument and cervical fascia without danger of displacement. Primary union was obtained. Posterior to the longer scar described above was a much shorter one, which was also hypertrophied and red. This was likewise excised, but for various reasons was not underlined with fascia lata, although the deep fascia was carefully sutured. Hence this second scar became a sort of "control experiment."

At the end of over twelve months the results of the procedure are as follows: When an attempt is made to incline the head to the opposite side, this movement is checked by the strip of fascia lata, which stands out plainly beneath the skin. This does not inconvenience the patient, because the same check was produced to even a greater extent by the false keloid. There is absolutely no pull on the new scar, which is soft and freely movable on the surface of the underlying graft. There is little tendency to hypertrophy or redness, except near the clavicle, to which the fascial strip did not quite extend. In other words, the new scar is relatively inconspicuous and "normal." The smaller posterior scar, the "control experiment," which was not underlined, has become markedly red and elevated, in spite of its being relieved from a certain amount of strain by the anterior fascial graft; while the longitudinal scar on the thigh from which the graft was obtained is fiery red and almost as broad and thick as one's little finger. In a second case the disfigurement was not so great as in the preceding case, but it was sufficient to justify an energetic attempt at its removal. The result, at the end of four months, is eminently satisfactory, the scar being small, soft, not red and freely movable over the fascial graft.

28. **Amputations of Leg.**—In cases of amputation through the upper two-thirds of the leg, Finochietto says, examinations, operations and dressings should be done while the patient is in the ventral decubitus. All classes of anesthetics can be administered and will be perfectly tolerated in that position. While in this position flaps of any form can be raised and one may employ at will subperiosteal, periosteal, anaperiosteal and osteoplastic methods. Any method of amputation can be performed more easily while the patient is in the ventral decubitus. Equally well, in the same position, any condition which involves all or a greater part of the leg circumference, as ulcer, lymphangiomata, cirsoid aneurysms, etc., may be examined and operated.

Boston Medical and Surgical Journal

May 20, CLXXII, No. 20, pp. 731-768

29 "Do's" and "Don'ts" in Diagnosis of Early Pulmonary Tuberculosis in Adults and Children. J. B. Hawes, 2d, Boston.
30 Study of Two Hundred and Sixty Cases of Acute Appendicitis at Massachusetts General Hospital. L. Davis, Boston.
31 Obesity and Malnutrition. W. E. Preble, Boston.
32 Relation of Alcohol to Accidents. W. J. Brickley, Boston.
33 Acidosis in Children. A. A. Howard, Boston.
34 Parenteral Administration of Horse Serum in Cases of Horse Asthma. J. L. Goodale, Boston.
35 Gangrenous Epiploic Appendix; Report of Case. A. R. Kimpton, Boston.

California State Journal of Medicine, San Francisco

May, XIII, No. 5, pp. 169-210

36 Diagnosis of Gastro-Intestinal Disease. C. W. Lippman, San Francisco.
37 General Paresis and Its Relation to Syphilis, with Report of Pathologist of Napa State Hospital. A. W. Hoisholt, Napa.
38 Laboratory Report, Napa State Hospital. W. T. Harrison, Napa.
39 Harrison Antinarcotic Act. F. Lengfeld, San Francisco.
40 Functional Defects of Thyroid in Relation to Neurotic Conditions. H. W. Wright, San Francisco.
41 Successful Methods of Attack on Malaria in California. W. B. Herms, San Francisco.
42 Drug Anaphylaxis. A. J. Scott, Jr., Los Angeles.
43 Report of Three Years' Rectal Work at County Hospital. W. H. Kiger, Los Angeles.
44 Consideration of Relative Merits of Albee Operation and Hibbs Operation. E. H. Smith, San Francisco.
45 Water-Borne Typhoid Epidemic. W. A. Sawyer, Berkeley.

Canadian Medical Association Journal, Toronto

May, V, No. 5, pp. 373-468

46 Artificial Pneumothorax in Treatment of Tuberculosis. C. D. Parfitt and D. W. Crombie, Gravenhurst.
47 *Uterine Hemorrhage at and after Menopause. F. A. Cleland, Toronto.
48 *Some Sequelae of Antityphoid Inoculation. W. Boyd, Winnipeg, Manitoba.
49 Juvenile Delinquency. G. S. Mundie, Victoria, B. C.

47. **Uterine Hemorrhage at and After Menopause.**—Cleland summarizes his paper as follows: The menopause is probably induced by retrogressive changes in the ovary. The

menopause is subsidence of the flow of blood, an increase in the flow is always pathologic. The menopause may occur during a period of thirty years or more. A local examination should always be made in cases in which hemorrhage occurs near the menopause. Professional and public education regarding the early symptoms of cancer of the uterus is necessary. In severe cases of uterine hemorrhage which have resisted all medicinal treatment and in which the patient is becoming progressively worse, hysterectomy is indicated. There seems to be no connection between hyperplasia and hypertrophy of the endometrium and hemorrhage from the uterus. At or near the menopause the curet is of little service except for diagnostic purposes. No palliative measures should be tried till malignant disease is excluded. General conditions may be the cause of hemorrhage, and syphilis should not be overlooked. Organotherapy is of little value in hemorrhage at or after the menopause. Blood transfusion is a possibility in treatment of severe cases,.

48. **Sequelae of Antityphoid Inoculation.**—The effects of prophylactic inoculation were observed by Boyd on the 18,000 men composing the North Midland Division of the Territorial Force. In quite a number of cases definite evidence was observed of a considerable increase of intestinal activity. In one case inoculation bore a close causal relationship to an attack of typhoid. In four cases jaundice developed a few days after inoculation. In two cases inoculation was closely followed by an attack of pneumonia. Three cases of severe urticaria came under Boyd's observation. In one of these the color was of a remarkably vivid hue; it was as if the patient had been steeped in some anilin dye, such as eosin. In no case did the condition last for more than forty-eight hours. None of the cases showed any rise of temperature. The author concludes that in the great majority of cases inoculation is a harmless procedure, involving at the most a certain degree of temporary discomfort, and those constitutional symptoms comprised under the term "inoculation fever." In a few cases the sequelae are of a more serious character, and in some instances inoculation may be followed by such conditions as pneumonia, appendicitis (two cases) and severe gastro-intestinal catarrh.

Iowa State Medical Society Journal, Des Moines

April, V, No. 4, pp. 129-168

50 Myocarditis. H. C. Eschbach, Albia.
51 Shock. C. B. Taylor, What Cheer.
52 Cholelithiasis, Like Appendicitis Should be Treated by Early Operation. J. L. Augustine, Ladora.
53 Laboratory Observations. C. W. McClure, Iowa City.
54 Defensive Ferments of Abderhalden. M. W. Hall, Des Moines.
55 Heliotherapy in Treatment of Tuberculosis. J. W. Kime, Fort Dodge.
56 Some Problems in Obstetrics. J. C. Powers, Hampton.

May, No. 5, pp. 169-214

57 Leukoplakia Buccalis. R. Levy, Denver.
58 Ophthalmology, Otology and Rhinolaryngology. J. C. Beck, Chicago.
59 Colon Bacillus Infection. M. Emmert, Atlantic.
60 Conservation of Middle Aged. J. F. Herrick, Ottumwa.
61 Use of Pituitary Extract in Labor. N. Noble, Des Moines.
62 Diagnostic Technic in Pulmonary Tuberculosis. J. W. Shuman, Sioux City.
63 Trichiniasis; Report of Epidemic. C. W. McClure, Iowa City, and M. Ware, New Liberty.
64 Accidental Trauma to Abdominal Viscera, Requiring Immediate Section. C. E. Conn, Battle Creek.
65 Therapeutics. F. N. Mead, Cedar Falls.

Journal of Abnormal Psychology, Boston

April-May, X, No. 1, pp. 1-79

66 Hysteria as Weapon in Marital Conflicts. A. Myerson, Taunton.
67 Analysis of Nightmare. R. Bellamy, Emory, Va.
68 Analysis of Single Dream as Means of Unearthing Genesis of Psychopathic Affections. M. Solomon, Chicago.
69 Act of Everyday Life Treated as Pretended Dream and Interpreted by Psychanalysis. R. Bellamy, Emory, Va.
70 Freud and His School. A. W. Van Renterghem, Amsterdam.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

May, VI, No. 5, pp. 533-621

71 Influence of Temperature and Concentration on Quantitative Reaction of Heart to Ouabain. T. Sollmann, W. L. Mendenhall and J. L. Stingel, Cleveland.
72 Signal-Magnet Controller. C. S. Chase and B. H. Schlomovitz, Iowa City, Iowa.
73 *Toxicity of Rattlesnake Serum and Bile with Note on Effect of Bile on Toxicity of Venom. W. H. Welker and J. Marshall, Philadelphia.
74 *Some Vasomotor Reactions of Liver, with Special Reference to Presence of Vasomotor Nerves to Portal Vein. C. W. Edmunds, Ann Arbor, Mich.
75 *Demonstration by Use of Arterial Rings of Inhibitory Action of Certain Drugs on Vasoconstriction Produced by Epinephrin. D. I. Macht, Baltimore.

73. **Toxicity of Rattlesnake Serum.**—According to Welker and Marshall, rattlesnake venom injected intramuscularly into the same rattlesnake or into another rattlesnake is not toxic. Injected intraperitoneally into guinea-pigs and intramuscularly into pigeons, it appears to be less toxic than rabbit serum. Captivity of the rattlesnake seems to produce an abnormal condition of the blood that is unfavorable to blood clotting. The bile of the rattlesnake is not highly toxic for pigeons, nor has it any antitoxic action for rattlesnake venom.

74. **Some Vasomotor Reactions of Liver.**—It was noted by Edmunds that under the action of epinephrin the liver volume changes are not the same in all animals, even in those of the same species. In the dog the usual effect of the injection of epinephrin is a constriction of the liver which continues during the time that the general blood pressure is reaching its maximum and returning to normal again. In the cat the usual type encountered is an increase in volume dependent on the increased efficiency of the heart. Variations from both types are frequently seen. When the hepatic artery is tied, all the types resolve into one. In this type there is no marked change in volume during the early portion of the curve, but later there is a marked increase. This increase is the result of the backing back of the blood in the vena cava, and it is therefore entirely passive. Injected into the intact animal epinephrin gives no proof of the presence of vasomotor nerves in the portal vein. These, however, can be demonstrated by the perfusion of the portal system with epinephrin solutions and by the action of these solutions on isolated pieces of portal vein, and finally by the study of the volume changes in the liver in relation to the vena cava and portal pressures when the splanchnic nerves are stimulated.

75. **Action of Certain Drugs on Vasoconstriction.**—Macht found that Dale's vasomotor paradox can be demonstrated in vitro or outside the body in a simple and effective manner, by the use of excised arteries. One or more rings of a freshly excised artery are suspended in a small glass chamber filled with warm Locke's solution at the temperature of 37 C. (98.6 F.), through which a constant stream of oxygen is kept bubbling. One end of the preparation is fixed to the bottom of the chamber, while the other is connected to the short arm of a lever, the long arm carrying a point for recording on a very slowly moving kymograph. The glass chamber is immersed in a water bath or a jacket for regulating the temperature. The temperature and flow of oxygen must be kept very constant. When the artery is excised it is in a state of permanent contracture or "tonus," which tonus must be overcome before its reaction to drugs can be studied. This is done by a method of so-called "weighting," originally introduced by O. B. Meyer, and was described by Voegtlin and Macht in their work on the coronary and pulmonary arteries.

When the tonus of the artery has been overcome and the lever is writing at a constant level, small quantities of ergotoxin solution are introduced into the small chamber. The effect of this drug is usually to cause a moderate but long lasting contraction of the arterial rings. If now the Locke solution is quickly removed, and fresh solution of epinephrin in warm Locke (37 C.) is introduced in its place, or if some strong solution of epinephrin is mixed directly with the original Locke solution, instead of the ordinary sharp rise due to epinephrin, as seen in normal rings, no constriction occurs, and indeed very often there is a relaxation noted. Macht says that the original contraction of the arterial ring is due to the direct action of the ergotoxin on the artery. While causing a constriction of the ring, the ergotoxin at the same time paralyzes the motor endings in

the vessel wall, giving an exactly similar paradoxical reaction to epinephrin as that observed in blood-pressure experiments in the intact animal.

Kansas Medical Society Journal, Topeka

April, XV, No. 4, pp. 105-138

76 Uncinaria Disease. L. E. Mock, St. John.
77 Surgery of Gallbladder and Ducts. R. C. Dugan, Ottawa.
78 Social End of Clinical Tour in France. P. S. Mitchell, Iola.
79 Thyroid Gland. J. Sundwall, Lawrence.

Kentucky Medical Journal, Bowling Green

April, XIII, No. 5, pp. 167-212

80 Old Time Physician. C. T. Grayson, Washington, D. C.
81 Chloroform and Ether Anesthesia. C. E. Vidt, Russell.
82 Case of Rabies. B. J. Neary, Waverly.
83 Duties of Health Officer. J. B. Scholl, Jabez.
84 Case of Tetanus. B. J. Bolin, Glenfork.
85 Transposition of Viscera. L. L. Solomon, Louisville.
86 Petrosal Abscess. D. S. Reynolds, Louisville.
87 Calomel, Its Uses and Abuses. W. E. Allen, Shelbyville.
88 Postoperative Insanity with Special Reference to Ophthalmic Cases. A. O. Pfingst, Louisville.
89 Sciatic Neuritis, from Personal Experience. M. C. Kash, Salyersville.
90 Syphilis of Lung; Report of Case. C. G. Hoffman, Louisville.

Maine Medical Association Journal, Portland

May, V, No. 10, pp. 363-394

91 Salvarsan. H. K. Tuttle, Boston.
92 Surgery of Kidney; Report of Case. J. Sturgis, Auburn.

Medical Record, New York

May 22, LXXXVII, No. 21, pp. 841-882

93 Freud from Surgeon's Viewpoint. R. T. Morris, New York.
94 *Diagnosis and Treatment of Cancer of Stomach. J. Meyers, Albany.
95 Case of Conjugal Syphilis. E. L. Hunt, New York.
96 Alopecias. L. B. Mount, Albany.
97 Rôle of Physician in Industrial Medical Insurance. A. C. Burnham, New York.
98 Hematuria. C. J. Drueck, Chicago.
99 *Homograde Thermometer. F. E. Aspinwall, La Grange, Ky.

94. **Diagnosis and Treatment of Cancer of Stomach.**—Meyers suggests that if there are any antibodies or special resistance passed from the parents to the children, the offspring may benefit in the way of immunity to disease, and thus the race is guarded. This is not so in cancer, for even if the host of cancer does elaborate any antibodies against his or her disease, yet through age or shortened life he or she does not transmit them to any descendants. And it may be for this reason that cancer is on the increase because we have more people in the world today only a few of whom can possibly be the sons or daughters of cancer fathers or mothers. If the cancer patients could produce or bear children there might come a time, perhaps very distant, when the human being would develop more resistance against cancer than he now possesses. As it is now, cancer cases serve no general purpose of immunization. In the face of a situation so serious and baffling it would seem advisable to Meyers to urge men and women with cancer to produce children before they die. If they do not marry it would be well for the state to sanction and provide for marriage so that all cancer material could be employed to produce children who might be immune through transmitted resistance.

99. **Homograde Thermometer.**—In the Homograde thermometer the normal blood heat at or near the surface of the body in which sensation mostly exists is the unit of value, and every degree in the scale equals 1 per cent. of that unit. The scale begins with O at the freezing point, 270 represents the boiling point of water, and 100 the normal blood heat within the radius of sensation. In the Homograde scale 100 represents the human normal and all variations therefrom are expressed in percentages of that normal; 95 H. expresses 95 per cent. of that heat, a 5 per cent. deficiency; 105 H. expresses a 5 per cent. increase of heat, a moderate and usually not dangerous fever, while 110 H. expresses a 10 per cent. increase of heat, which is high and proportionately dangerous. To change Fahrenheit figures to Homograde find the exact number of degrees above or below freezing and increase that number one-half. The result will be the Homograde equivalent. Throughout the Homograde scale there are exactly 3 degrees instead of 2 degrees in the Fahrenheit scale. The shorter degrees of the Homograde thermometer necessitate a less frequent use of fractions.

Military Surgeon, Chicago

May, XXXVI, No. 5, pp. 405-504

100 How Can Hospital Ship Best Serve Needs of Fleet? T. W. Raison, U. S. Navy.
101 Leprosy. G. W. McCoy, U. S. P. H. Service.
102 Is Volunteer Medical Officer of To-Day a Soldier? G. M. Blech, Illinois National Guard.
103 How Can Full Complement of Qualified Physicians for Medical Corps of Navy be Best Achieved and Maintained? J. D. Manchester, U. S. Navy.
104 Two Non-Military Tours of Duty of Indiana Ambulance Company No. 1. A. G. Chittick, Indiana National Guard.

Missouri State Medical Association Journal

May, XII, No. 5, pp. 197-248

105 Insidious Mastoiditis. J. B. Shapleigh, St. Louis.
106 Otitic Brain Abscess. W. E. Sauer, St. Louis.
107 Functional Testing in Ear Disease. V. W. McCarty, Kansas City.
108 Surgical Lesions as Etiologic Factors in Gastric Symptoms. C. Smith, St. Louis.
109 Chronic Focal Infection of Nose, Throat and Ear as Cause of General Infection. W. M. Reed, Kansas City.
110 Functions of Board of Censors. S. P. Child, Kansas City.
111 Does Insanity Increase? Review of First Two Thousand Cases at State Hospital No. 4, Farmington. F. L. Long, Farmington.
112 Poliomyelitis; Report of Cases. D. E. Shy, Knob Noster.

New Orleans Medical and Surgical Journal

April, LXVII, No. 10, pp. 823-894

113 Some of Modern Problems in Exophthalmic Goiter. T. E. Satterthwaite, New York.
114 Importance of Diagnosis of Early Syphilis. W. H. Harris, New Orleans.
115 *Experiences with Swift-Ellis Treatment. S. C. Jamison, New Orleans.
116 Headaches. L. Sexton, New Orleans.

115. **Experiences with Swift-Ellis Treatment.**—It is Jamison's belief that (1) improvement is likely to follow the Swift-Ellis treatment, if the patient's spinal fluid shows pathologic changes; (2) this treatment is hopeless unless the fluid does show such changes; (3) the danger of this treatment is not great, and has been exaggerated in certain reports.

New York Medical Journal

May 22, CI, No. 21, pp. 1053-1088

117 Duty of Medical Profession in Regard to Street Conditions. B. Sachs, New York.
118 One Hundred Years Ago. J. M. Swan, Rochester.
119 *Whooping Cough. P. Luttinger, New York.
120 Optic Neuritis Concurrent with Whooping Cough. E. S. Clouting, Philadelphia.
121 Forceps. S. S. Arluck and J. Girsdansky, New York.
122 Rectal Polyp in Childhood. H. Neuhof, New York.
123 One Thousand Submucous Resections of Nasal Septum. L. Fisher, Philadelphia.
124 Military Surgeon on Firing Line. P. J. H. Farrell, Chicago.
125 *Case of Infantile Facial Eczema Cured by Reduction of Carbohydrates. C. N. Sturtevant, Philadelphia.
126 Congenital Diverticulum of Urinary Bladder in Infants and Children. J. M. Wallfield, New York.
127 Water as Physiologic Tonic. A. C. Geyser, New York.

119. **Whooping Cough.**—Pertussis stock vaccines as prepared by the New York Health Department Bureau of Laboratories, according to Luttinger, seem to have a prophylactic value when given in high doses. In the treatment of pertussis, these vaccines seem to have shortened the duration and severity of the paroxysmal stage; the average duration of the whoop being twenty-five days, compared to forty days of those treated with drugs.

125. **Eczema Cured by Reduction of Carbohydrates.**—Concluding that the sugar must be at fault in his case, Sturtevant omitted all carbohydrates from the formula. Improvement was immediate; the next day the temperature fell, and daily the eczema could be seen to improve. In six days the face was entirely clear. The baby lost about 8 ounces in weight, however, in the six days. The addition of a half dram of dextramaltose to each feeding (6 ounces every fourth hour) was followed by a regain of the weight lost, but no more. After a few days of stationary weight, the sugar was increased suddenly to 5 per cent. There was an immediate

return of the eczema, more mucus in the stools, and a slight but persistent elevation of temperature again, Sturtevant omitted all sugar. As before, all symptoms disappeared in a few days. Beginning now with small additions of sugar each few days, gradually developing an increased tolerance for this food element, he succeeded in getting small gains in weight and discharged the patient apparently cured. Observation in the dispensary and social service department recorded continued improvement.

Northwest Medicine, Seattle

May, VII, No. 5, pp. 137-168

128 Technic of Pus-Tube Operations. E. F. Tucker, Portland, Ore.
129 Wandering Spleen. J. H. O'Shea, Spokane.
130 Volvulus of Ileum. O. B. Wight, Portland, Ore.
131 *Effusion into Bowel Wall Simulating Appendicitis. H. W. Riggs, Vancouver, B. C.
132 Renal Diagnosis in Relation to Renal Surgery. G. S. Whiteside, Portland, Ore.
133 Ectopic Pregnancy. C. B. Ford, Seattle.
134 Artery Blocking Versus Nerve Blocking in Prevention of Shock. P. W. Willis, Seattle.
135 Operation for Cleft-Palate. D. K. Thyng, Tacoma.
136 As Surgical Assistant is Anesthetist Sufficiently Trained? S. F. Wiltsie, Seattle.

131. **Effusion into Bowel Wall.**—The four cases cited by Riggs in their history resemble the symptoms of appendix trouble more or less acute. The central abdominal pain, shifting to the right lower quadrant, with tenderness on pressure over this area, the slight rigidity of the right rectus, vomiting, temperature ranging from 99 to 103, make the clinical picture of inflammation of the appendix. The doughy mass felt in several cases, gave the impression of a possible abscess. The pathology is more or less uncertain. The site of the lesion is constant, occurring at the lower few inches of the ileum and sometimes involving a contiguous portion of the cecum. It is to be noted that this area is supplied by the ileocolic artery. The congestion varied from a slight reddening to a dark red color. There was great thickening of the bowel wall and of the mesentery. This is not of the edematous type which pits on pressure, but has more of the brawny feel of an inflammatory infiltration. The area affected is usually quite sharply defined and does not shade gradually to the normal. In one case there were petechial hemorrhages in the mucous membrane of the appendix, while in another there was apparently blood in the stool. A bacteriologic examination in the only appendix involved gave only *B. coli* and pyocyaneus.

Riggs believes that this may be regarded as a manifestation of a toxemic condition which has for its outward sign erythema, urticaria, angioneurotic edema and purpura. The abdominal pain, the vomiting, the temperature and the site of the lesion correspond to the description given by Henoch of abdominal purpura. In the cases Riggs reports, the question of hemorrhage is almost negligible. One had petechial hemorrhages, another presumably had blood in the stool, but there was no marked hemorrhage from any part of the alimentary tract. The other case showed absolutely no sign whatever of a purpuric nature.

Ohio State Medical Journal, Columbus

May, XI, No. 5, pp. 293-360

137 Cerebellar Surgery. S. P. Kramer, Cincinnati.
138 Would it Be Expedient to Eliminate Alcohol from Pharmacopeia? S. B. McGavran, Cadiz.
139 Intestinal Stasis. E. A. Murbach, Archbold.
140 New Plan of Collecting Vital Statistics in Ohio; How Physician Can Aid in Health Campaign. F. G. Boudreau, Columbus.
141 Importance of Eyesight and Its Conservation in Movement for Prevention of Accidents. M. D. Stevenson, Akron.
142 Value of Tuberculin in Treatment of Pulmonary Tuberculosis. S. A. Douglass, Mount Vernon.

Ophthalmology, Seattle

April, XI, No. 3, pp. 437-639

143 Importance of Eyesight and Its Conservation in Movement for Prevention of Accidents. M. D. Stevenson, Akron, Ohio.
144 Significance of Increased Tension of Eyeball. S. D. Risley, Philadelphia.
145 Treatment of Glaucoma Simplex. F. E. Cheney, Boston.
146 West Intranasal Partial Resection of Tear Sac for Dacryocystitis, Dacryostenosis, Phlegmon or Epiphora. J. S. Clark, Freeport, Ill.
147 Eye Symptoms of Hypophyseal Diseases. H. V. Würdemann, Seattle.
148 Hyoscin and Morphin as Preliminary to Local Anesthetics. L. M. Hurd, New York.
149 Case of Expulsive Retrochoroidal Hemorrhage Following Cataract Extraction. H. M. Starkey, Rockford, Ill.
150 Subperiosteal Blood Cyst (?) of Orbit Simulating Osteosarcoma. R. S. Lamb, Washington, D. C.
151 Sudden Changes of Refraction in Diabetes. C. Zimmermann, Milwaukee, Wis.
152 Causes of Second Sight. S. B. Muncaster, Washington, D. C.
153 Strabismus. F. Valk, New York.
154 Pupillary Phenomenon. U. S. Bird, Tampa, Fla.
155 Chronic Prostatitis Probable Factor in Iritis. P. H. Dernehl, Milwaukee, Wis.
156 Economics of Eye, Ear, Nose and Throat, Together with Economics of Entire Body (Physical Economics). (To be continued.) E. E. Holt, Portland, Me.
157 Early Diagnosis of Cancer. W. H. B. Aikins, Toronto.

Public Health Journal, Toronto

May, VI, No. 5, pp. 203-250

158 German Immigration and Anglo-Saxon. P. H. Bryce, Ottawa.
159 Can Insurance Experience Be Applied to Lengthen Life? A. Hunter.
160 Recent Australian Epidemic of Smallpox. W. E. Home, Victoria, B. C.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Children's Diseases, London

May, XII, No. 137, pp. 129-160

1 Montessori Education for Children with Defective Sight. L. Paton.
2 Case of Infantile Hemiplegia Affecting Left Half of Body, with Considerable Under-Development of Left Upper Extremity; Jacksonian Convulsions Affecting Paralyzed Upper Extremity; Petit Mal. E. G. Fearnsides.
3 Suppurative Parotitis Following Pneumonia. J. P. Parkinson.
4 *Case of Myelitis in Child. H. T. Ashby.

4. **Myelitis in Child.**—The patient was a boy, aged 5½ years, who first complained of vague pains in the chest. The parents also noticed that he was slowly losing the use of his legs. The family history was good, and previous to the onset of the illness he had always been healthy. He had not had any of the infectious fevers. When sent by his physician there was complete paralysis of both legs and back, with anesthesia extending from the toes up to a line drawn round the chest just below the nipples. The knee jerks were much exaggerated, and there was a Babinski sign present on both sides. The abdominal reflexes were absent. There was no optic neuritis and no impairment of the mental power. The upper extremities and neck were unaffected. The urine was normal, but continually dribbling away, and there was also incontinence of feces during his stay in the hospital, and up to the time of death he complained of vague pains in the chest and in the upper abdomen, but his general condition remained the same till just before he died.

There was only a slight rise of temperature on and off throughout the illness, but just before death he had hyperpyrexia. He had a small bed-sore on admission to the hospital, which, however, soon healed. The heart and lungs were normal. After three weeks, the anesthesia, which had remained at the same level, began to increase upward and he became rapidly worse, no doubt due to the vital centers becoming affected. There was no improvement with potassium iodid, no family history of syphilis, and the Wassermann test was negative. There was no spinal caries nor injury, and the case was quite unlike anterior poliomyelitis or a spinal growth. The disease seemed to spread up the cord quickly at first, became stationary for a time, and then advanced till the vital centers were affected.

British Medical Journal, London

May 1, I, No. 2835, pp. 749-788

5 Post-Graduate Teaching of Surgery. R. Morison.
6 Epidemic Cerebrospinal Meningitis. A. G. Gullan.
7 Mixed Typhoid + Paratyphoid *A* + Paratyphoid *B* Vaccine. A. Castellani.
8 Comparison between some Physiologic and Pathologic Conditions. J. Barcroft.
9 Wound Infections; Some Methods in Their Treatment. A. E. Wright.

May 8, I, No. 2836, pp. 789-832

10 Sterilization of Water by Chlorin. J. J. H. Nelson.
11 Birth Palsy. H. Platt.
12 *Decortication for Traumatic Empyema with Complete Collapse of Lung. W. G. Spencer.
13 Insects and War; Mosquito. A. E. Shipley.
14 Curve of Epidemic. J. Brownlee.
15 Foreign Body (Glass-Headed Pin) Impacted at Bifurcation of Trachea Extracted by Aid of Bronchoscope. S. Jones.

12. **Decortication for Traumatic Empyema.**—For recent cases of empyema the essential thing, Spencer says, is to sponge the cavity free from fibrin and pus, and then by the finger, aided by sponges on holders, to seize portions of the capsule with forceps in order to free the lung. This can safely be done if the patient is given nitrous oxid gas with oxygen or air; as the lung is being freed a little ether will induce cough with which the lung will expand. The difficulty in children may be the occurrence of bronchopneumonia with the empyema. Then, after the pleural cavity has been cleared, the lung may be found free, but it cannot expand owing to consolidation. If the base of the lung is then drawn into the wound and fixed there by suture with a tube beside it leading into the cavity, healing will soon occur.

Journal of Laryngology, Rhinology and Otology, London

May, XXX, No. 5, pp. 177-208

16 Bilateral Lesion of Auditory Center. T. Guthrie.
17 What Factor Determines Ear to Be First Attacked in Chronic Middle-Ear Catarrh? M. Yearsley.

Lancet, London

May 1, I, No. 4783, pp. 897-948

18 Wound Infections; Some Methods in Their Treatment. A. E. Wright.
19 *Ileus Duplex. (Inflammatory Enterocolic Ileus.) W. S. Handley.
20 Roentgenoscopy with Third French Army. A. W. Mayo-Robson.
21 Blackwater Fever. R. W. Burkitt.
22 *Theory of Telephone Probe. R. G. Canti.
23 Significance of Nuclear Variations of Neutrophil Leukocytes (Arneth Counts) in West Africa. J. W. S. Macfie.
24 Facial Plastic Surgery, Laryngology and Stomatology in French Military Hospitals. J. D. Grant.

May 8, I, No. 4784, pp. 949-1008

25 *Arteriovenous Aneurysm. W. Osler.
26 *Etiology of Rickets. L. Findlay.
27 Treatment of Wounds in War. W. W. Cheyne.
28 Treatment of Wounded on Board H. M. S. "Tiger" During Naval Action of January Twenty-Four. J. C. Kelly.
29 Epidemic Cerebrospinal Meningitis. F. E. Batten.
30 Psychology of Traumatic Amblyopia Following Explosion of Shells. H. S. Pemberton.
31 Case of Cerebrospinal Meningitis. H. J. Alford.

19. **Ileus Duplex.**—Peritonitis of the serous surface of the intestine, when it reaches a certain degree, is accompanied by complete paralysis of the involved segment of intestine. General peritonitis means general paralysis of the intestine, and is accordingly not amenable to surgical treatment. But if the peritonitis is partial though unlimited by any adhesion barrier, certain segments only of the intestine are paralyzed. If the paralyzed segments can be thrown out of circuit by surgical measures, recovery is in such cases possible and even likely. Unfortunately, in these cases the surgeon's hand has been paralyzed by a facile assumption, based on the general abdominal distention, that general peritonitis is present. The observations Handley has made in the operating room and the successful results of his cases show conclusively that septic ileus of pelvic origin is not accompanied by general peritonitis when it first comes under observation, and that it is perfectly amenable to surgical treatment, subject to a clear recognition of the fact that two segments of the bowel are involved, and that accordingly two obstructions require to be circumvented.

22. **Theory of Telephone Probe.**—This instrument was designed for the location of bullets and other foreign metallic matter within the human body. It consists essentially of a telephone receiver, one terminal of which is electrically connected with the skin of the patient by means of a flat electrode covered with wet cloth, while the other terminal is connected with a metallic probe. A dry battery may or may not be inserted in series with the telephone. The probe is introduced along the track of the bullet, and on contact being made with the latter a sound is produced in the telephone. The instrument is of real value only when the ordinary methods of detection are of no avail and when the Roentgen ray, if obtainable, is deceptive.

25. **Arteriovenous Aneurysm.**—Osler agrees with the conclusion arrived at by Subbotich, senior surgeon of the Belgrade State Hospital, from his experience in the Balkan War, "that arteriovenous aneurysms should be operated on, as they offer small prospect of spontaneous cure, although they often remain stationary for a long time and cause relatively little trouble." It is suggested that the question is largely one of situation and technic. As the cases reported by him indicate, even with the lesion of the axillary and subclavian vessels good health may be maintained for years without any serious trouble, but there are always risks, particularly of thrombus formation in the distended veins, and even after thirty or forty years serious trouble may arise. Urgency is greater in the case of the lower limbs, and it would be much safer to operate before the venous engorgement becomes excessive. Osler emphasizes the fact that up-to-date vascular surgery cannot be done in a hospital in which the younger surgeons have not full opportunities to experiment on animals, because the extraordinarily delicate technic of vascular suturing is an art acquired only after much practice.

26. **Etiology of Rickets.**—Examination of his results, Findlay says, shows very definitely that the disease is proportionate to the amount of air space allowed to the child, and that as this diminishes in amount the incidence of the disease rapidly increases. Probably the want of sufficient fresh air acts in a twofold manner. In the first place, the absence of pure air will act as a sedative and tend to make the child less inclined for exercise. If a child is confined to the house it is more easily tired, is less active, and wishes to go to bed earlier, so that the living in overcrowded rooms acts just in an opposite manner to taking the child out. Again, it is not unlikely that in overcrowded houses the amount of work that devolves on the mother will hinder her from attending properly to the child.

Closely allied to the above is the amount of time that the child spends in the open air. In the larger proportion of the cases the mother confesses to not taking the child out at all. These two factors, confinement and deficient fresh air, act by making the child more lethargic and less inclined to exercise itself, although it is quite possible that deficient oxygenation of the blood itself helps toward the production of the special rachitic metabolic error. The results which Findlay has obtained in the treatment of the disease with massage, passive movement and electricity are, he believes, strongly confirmatory of the view that deficient exercise engenders the condition. So far as his experience goes, no variety of dietetic or medicinal treatment brings about the same rapid and complete cure. The children are encouraged to walk, and as yet Findlay has not seen any bad effects follow such practice.

In view of the effect of deficient exercise on the calcium retention, the influence of confinement in the production of human and experimental rickets, and the frequency with which the disease is encountered in overcrowded houses, Findlay considered it not unlikely that rickets would be exceedingly prevalent in those parts of the world in which the people were confined in badly ventilated houses and from which sunlight was absent for long periods of the year. After a fairly extensive search through the diaries and journals of travelers in Iceland, Greenland and Alaska, parts of the world in which the winters are long and dark and in which the houses are badly ventilated and devoid of all sanitary conveniences, houses in which many people are huddled together for weeks at a time, he has not come across a single suggestion that rickets is ever encountered.

Practitioner, London

May, XCIV, No. 5, pp. 631-774

32 Treatment of Cerebrospinal Meningitis (Spotted Fever). W. Whitla.
33 Cerebrospinal Fever. T. J. Horder.
34 Fraudulent and Neurasthenic Cases. J. Collie.
35 Aphasia and Its Treatment. S. A. K. Wilson.
36 Recent Work in Ophthalmology. L. V. Cargill.
37 *Duodenum in Diabetes Mellitus. N. Mutch.

38 Treatment of Some Septicemias by Vaccines. G. T. Western.
39 Recent Work on Clinical Pathology. W. D. Emery.
40 *Cancer of Breast; Analysis of One Hundred Cases. R. Howard.
41 Recent Work in Urinary Surgery. J. W. Thomson-Walker.
42 Fatal Gastro-Intestinal Hemorrhage in Newborn. S. Sheill.

37. **Duodenum in Diabetes Mellitus.**—In nine consecutive patients with severe diabetes mellitus observed by Mutch, the mean vertical length of the duodenum was 3⅛ vertebra, the extremes being 3 and 3½ inches. Considering adults only, the average length was 4⅝ inches, and the extremes 4½ and 5½ inches, respectively. These figures represent a very great enlargement of the organ; in fact, one patient's duodenum was twice as long as that of a healthy adult and was increased in caliber also, and on examination after death, the walls were seen to share the same change, being thick and fleshy, and of a somewhat milky appearance. Mutch says that the same alterations in structure can be traced in the upper portions of the jejunum.

This enlargement is also invariably associated with ileal or colonic stasis, and in some patients delay is so extreme, and the consequent modification of the lower bowel so advanced, that there is no doubt in Mutch's mind but that alimentary stasis preceded the onset of diabetes; as, for example, in the case of one patient whose duodenum showed strong antiperistaltic movements. The duodenal dilatation of such patients might reasonably be ascribed to the factors which produce this abnormality in simple intestinal stasis. In the majority of cases, however, the increase in size of the upper part of the small intestine is the predominant change in the alnimentary canal, while lower bowel delay and duodenal regurgitation, although present, are not sufficiently pronounced to account for the enlargement. Fecal accumulation is evidently a common concomitant of diabetes mellitus, but not the sole determining factor, although it may be a predisposing cause. That ileal stasis plays an important part in the disease, Mutch believes, is clearly shown by an analysis he made in which the patients are classified according to the severity of their acidosis. The intensity of the disease was directly proportional to the degree of ileal stasis.

Almost all diabetic patients excrete indoxyl indolacetic acid, and parahydroxyphenylacetic acid in their urine, in varying proportions. In constipated subjects, these substances arise either directly or indirectly from the action of *B. coli* on tryptophan and tyrosin in the small intestines, and the amounts excreted serve as an index of the extent to which the ileum is infected with coliform organisms. In diabetes mellitus, the excretion of these bodies does not bear any obvious relationship to the seyerity of the disease, from which fact it may be inferred that the gravity of the prognosis in diabetics, with marked ileal delay, depends on some condition other than the coincident infection of the small intestine with coliform organisms. A profuse growth of streptococcus brevis was obtained from the duodenum of a boy with severe diabetes mellitus. The suggested explanation of these phenomena is that chronic duodenitis is the determining factor in the production of diabetes mellitus, and that ileal delay increases the severity of the disease by causing stagnation in the duodenum.

40. **Cancer of Breast.**—Howard's youngest patient was 23. Eighty-six of the patients were over 35 years of age. No definite connection between cancer and marriage, pregnancy or suckling could be made out, but the cases with the shortest histories were, on the whole, seen in the unmarried. Three cases had had abscesses in the breasts some years before the appearance of the cancer. In none of the 100 cases was there a definite history of injury preceding the appearance of the tumor. In sixty-seven of the 100 cases the lump in the breast was discovered by accident. In four cases the patient came for advice for a discharge from the nipple. Three patients suffered from spontaneous fracture, due to secondary cancer in the bones; but all three had been aware of a lump in the breast for some months, and had not sought advice because it was painless. The mortality for the 100 cases is three.

One patient had a goiter and did not recover consciousness. The second, an elderly lady, died quite suddenly after the stitches were removed, and was found on postmortem examination to have extreme fatty degeneration of the heart. The third was a woman of 42, who died suddenly of pulmonary embolism, while having tea with her friends on the seventh day after the operation. Out of the 100 cases, Howard has so far performed eleven operations for recurrence, five locally in the skin, four in the supraclavicular glands and two in the opposite breast. Recurrence in the lungs has been seen five times, the patient first complaining of a dry cough and then developing signs of solidification of the lungs or fluid in the pleura. In one case there was recurrence in the dorsal spine, but Howard has not seen any other case of recurrence in the bones. In two cases recurrence in the skin occurred five years after the original operation, but in one of these the secondary growth was removed, and at the time of writing there is no further recurrence.

Howard's experience of radium is limited to two cases, both of which were inoperable. Neither received the slightest benefit from the treatment. Eight cases of recurrence were treated by Roentgen rays, and temporary improvement has resulted in several of them. In one case a large mass appeared in the opposite breast after removal of one for cancer. This mass had all the clinical characters of a cancer. It completely disappeared under Roentgen-ray treatment, and later the patient died with recurrence in the thorax.

Annales de Médecine, Paris

August, II, No. 2, pp. 107-222

43 *Meningeal Hemorrhage in the Young of the So-Called Spontaneous and Curable Type. V. Cordier, L. Lévy and L. Nové-Josserand.
44 Bronzed Diabetes. N. Fiessinger and L. Laurent.
45 Paroxysmal Tachycardia. E. Donzelot.
46 Xanthoma in Young Man. Coyon and G. Laroche.
47 *The Symptoms Characteristic of Tricuspid Insufficiency; Especially the Ventricular Venous Pulse. C. Esmein.

43. **"Curable" Meningeal Hemorrhage in the Young.**—Cordier discusses the history of the so-called spontaneous and curable hemorrhage in the meninges and its connection with eventual acute hemorrhagic encephalitis, its nature and its outcome. The afterhistory of but few of the patients is known, and a case in his own experience suggests that the prognosis is graver than is generally assumed. In his case a man of 22 was treated at the hospital for supposed acute meningitis following influenza. He had previously been healthy, but his wife was a consumptive. Lumbar puncture released hemorrhagic fluid under high pressure, the symptoms gradually subsided and the patient seemed quite cured. Ten months later meningeal symptoms developed again, extremely severe, and soon fatal. Six illustrations are given of the findings in the brain. They indicated a hemorrhagic encephalitis, and Cordier is convinced that this was directly connected with the first meningeal hemorrhage. The latter must be regarded as the subarachnoid localization of some toxi-infection or latent unrecognized intoxication. This probably is the condition in all such cases hitherto regarded as spontaneous and curable. There is probably always some meningoencephalitis, but the brain is affected so slightly that the symptoms from this escape attention. Sooner or later, however, the latent toxi-infection may flare up and the point of lessened resistance in the brain bear the brunt of it.

47. **Symptoms of Tricuspid Insufficiency.**—Esmein's long critical study of this subject has demonstrated, he says, that pulsation in the jugular veins does not always accompany tricuspid insufficiency and may, in rare instances, occur without it. Pulsation of the liver is still rarer, but when it is noted tricuspid regurgitation is practically certain.

Archives des Maladies du Cœur, etc., Paris

May, VIII, No. 5, pp. 105-148

48 *The Murmurs in the Arteries as Index of Peripheral Resistance. (Appreciation des résistances périphériques par l'auscultation des souffles artériels.) L. Bard.
49 Slight Degrees of Pulsus Alternans Revealed by Auscultation of the Arteries. L. Bard.

48. **Auscultation of the Arteries.**—Bard has been studying the murmur in an artery as he slightly obstructed it by pres-

sure with a stethoscope. The murmurs vary widely in intensity and in the facility with which they can be induced. Greater precision is attained by partially obstructing the circulation with a sphygmograph cuff and ausculting below with a phonendoscope. Sounds are heard constantly in the artery, varying in intensity and tone; murmurs also are constant, but they are very faint with a normal circulation. With pathologic conditions in the circulation, the murmurs are extremely intense or entirely imperceptible. He says that analyzing the mechanism of the murmur reveals that it is dependent on the emptiness of the peripheral segment of the artery below the constriction. Whether the artery in this segment is empty depends in turn on whether the blood from it has passed on normally into the capillaries or whether the blood has encountered resistance and is thus unable to flow off out of this segment. Other factors may contribute, but this is the instructive factor. The most pronounced murmurs were in certain cases of aortic insufficiency of endocarditic origin, while no murmurs were perceptible in the cases of hypertension of renal origin. Proof that this is the correct explanation of the arterial murmur is afforded by the complete disappearance of the murmurs when the artery is compressed by applying a second cuff below, thus shutting off the escape of the blood into the capillaries. By testing for the murmurs it is possible to keep daily supervision over the course of a primary or secondary affection of the circulatory apparatus, and guide treatment accordingly. In cases of aortic insufficiency of syphilitic aortic origin, no murmurs could be detected.

Archives de Médecine des Enfants, Paris

April, XVIII, No. 4, pp. 181-236

50 *Infantile Scorbutus; Twenty-Six Cases. J. Comby.
51 *Comparative Importance of the Luetin and Wassermann Reactions in Inherited Syphilis. G. Blechmann, M. Delort and A. Tulasne.
52 Icterus Gravis in Children. J. Comby.

50. **Scorbutus in Infants.**—None of the twenty-six infants with scorbutus whose histories Comby relates were breast-fed or fed on fresh milk. After from five to ten months' feeding with commercially or home sterilized milk, the children began to grow pale and languid, and finally to cry whenever they were moved. The legs grew weak and as if paralyzed, a kind of pseudoparaplegia from pain. This is the most characteristic sign of incipient scorbutus. Hematomas may develop under the periosteum, but the most frequent symptom is the bleeding from the gums if the child has any teeth. Impress on the family the necessity to refrain from moving the child, especially from trying to make it stand up or walk; no bathing, merely leave the child quiet in bed, with plenty of air. Feed with fresh milk, boiled or not, and give a teaspoonful of orange or fruit juice between feedings. If no other fruit is available, lemon juice diluted and sweetened can be used. For children over a year old, three tablespoonfuls of soft mashed potato may be given during the day.

51. **The Luetin Versus the Wassermann Reaction in Inherited Syphilis.**—Blechmann and his co-workers have applied the luetin test to 230 children, and here report the details in 117 of the cases, including fifty with known or suspected syphilis. The Wassermann test was applied at the same time, and it harmonized much better with the clinical pictures than the luetin reactions, while the technic of the latter is more exacting. On the whole, they assert, a positive luetin reaction should be disregarded when the Wassermann and the clinical picture speak against syphilis. On the other hand, a positive Wassermann obtained on two occasions strongly suggests syphilis. In conclusion, they give tabulated findings with both tests in 274 cases of inherited syphilis as published by various investigators.

Bulletin de l'Académie de Médecine, Paris

April 20, LXXIII, No. 16, pp. 457-482

53 *Training Schools for Crippled Soldiers. (La rééducation professionnelle et la réadaptation au travail des estropiés et des mutilés de la guerre.) E. Mosny.
54 Frost-Bite. (Étude étiologique des froidures.) F. Debat.
55 *Specific Treatment and Prophylaxis of Leishmaniosis. (Bouton d'Orient.) Gachet.

53. **Training Schools for Maimed Soldiers.**—Mosny discusses what has been done in other lands for persons crippled by industrial or other accidents, and then describes the workings of the training school for crippled soldiers that has been at work at Lyons since last December. The men live in the school during their course of training, and the institution in various ways is a model. Another training school to teach horticulture is being organized. These, Mosny states, are the only practical realizations in France to date of aid by professional reeducation and readaptation to remunerative work for those mutilated or crippled in the war. At Lyons the men are taught to use the stump of the arm, without regard to an artificial limb. The prosthesis is to be selected later when the man has learned exactly what is best adapted to serve him in his work. Mosny discusses the general principles and special details of training the maimed to utilize the earning forces they have left, and of finding employment for them. It is a task the country must assume, he adds, and it will require all her ingenuity, all her material and moral forces, and all her goodness of heart. His plan contemplates loans to those who wish to set up a business for themselves.

55. **Oriental Sore.**—Gachet writes from the medical school at Teheran in Persia to extol the curative action of intravenous salvarsan treatment. The sore heals in from three to five weeks after one or two injections, with an interval of one or two weeks. He has found the Leishman bodies in the body of a fly common on dogs, the *Hippobosca canina*, and thinks that this fly has something to do with the transmission of the affection. Camels, horses and dogs are subject to it, but in Persia he has found it only in dogs; fifteen of twenty-one dogs brought in from the street showed the characteristic lesion. Intramuscular salvarsan injections cured them all in from three to five weeks. He adds that the fact that these lesions appear in man only on parts exposed, confirms the theory of fly intermediation in the transmission of the disease.

Revue Médicale de la Suisse Romande, Geneva

April, XXXV, No. 4, pp. 185-240

56 *Purulent Pleurisy as Complication of Artificial Pneumothorax. M. Jacot. Commenced in No. 3. Continued.
57 *Diuresis Induced by Intravenous Injection of Hypertonic Sugar Solutions. G. Turrettini.

56. **Purulent Pleurisy Complicating Induced Pneumothorax.**—Jacot discusses in this instalment the diagnosis, prognosis and treatment of this complication as observed in eight of 108 cases of pulmonary tuberculosis in which pneumothorax was artificially induced at Leysin. Purulent pleurisy is rare in ordinary pulmonary tuberculosis; Leudet found it only in nine of 2,000 consumptives. Some tuberculous focus perforating into the artificial pneumothorax is probably the cause explaining the purulent pleurisy. In treatment, even of the severest forms of purulent pleurisy, repeated puncture followed by insufflation of nitrogen is preferable to pleurotomy. It is free from the dangers of the latter while it maintains the therapeutic action of the induced pneumothorax, and adhesions rarely form with it while the chest wall is not left deformed as after a resection. Adhesions are particularly prone to develop after a lung has been compressed by the pneumothorax, and resection of the chest wall in treatment of the secondary purulent pleurisy is especially liable to bring this about, as it releases the lung from the compression.

57. **Diuresis from Sugar Infusion.**—Turrettini's experience has been unusually favorable with hypertonic sugar solutions in inducing diuresis in severe illness in which the kidneys had practically ceased to act. He gives the details of three cases of acute nephritis from poisoning with mercuric chlorid, two of uremia from nephritis plus atrophy of the kidneys, and one case of probable toxic action from some tuberculous focus elsewhere. The solution of glucose was of 25 or 40 per cent. strength, and the amount injected ranged from 300 to 500 c.c. each time. The condition was desperate in all the six cases, but these strong sugar solutions conquered the anuria in four cases and temporarily improved the kidney functioning in the fifth case before the patient died. Only one injection could be made in one case of severe mercurial poisoning as the vein could not be found.

Archiv für Kinderheilkunde, Stuttgart

LXIV, 1915, Nos. 3-4, pp. 161-320. Last indexed Feb. 27, p. 781

58 *Digestive Disturbances of Older Children and Their Treatment. (Die wichtigsten Verdauungsstörungen des älteren Kindes und ihre Behandlung.) A. Baginsky.
59 *Treatment of Acute Pneumonia in Children. (Die Therapie der Pneumonie als therapeutisches Paradigma.) A. Baginsky.
60 *Stenosis of the Pylorus in Infants. M. K. Forcart.
61 Pathology of Periodical Vomiting with Acetonuria. H. Zade.

58. **Digestive Disturbances in Older Children.**—Baginsky discusses in turn habitual vomiting, nervous anorexia, atony of the stomach, chronic dyspepsia from gastric achylia, achylic diarrhea, and chronic constipation, and the general principles for treatment of each. Chronic constipation is sometimes managed best with a change of scene to supplement the change to an anticonstipation diet. No milk should be allowed until the child has learned to chew its milk instead of drinking it. He abhors purgatives and enemas in these cases except as the very last resort. Nervous anorexia is most common in children fed long on milk who have never learned to chew properly or are too indolent to chew. If they can be roused and trained to masticate they soon acquire an appetite. In some children the senses of taste and smell seem to be abnormally blunt so they thus lack the normal impulse to eat.

With chronic dyspeptic disturbances the main point in treatment is to determine what elements of the food the children are able to digest, and this requires study of the stools and tests of stomach functioning. Some digest fats; others are unable to tolerate them, and so on. Once the individual functional capacity is determined, the physician has the reins in his hands. Every relapse does the greatest harm, because the whole course of treatment has then to be begun over again. The less drugs are used, the better. A child with diarrhea must be kept unconditionally in bed.

59. **Treatment of Pneumonia in Children.**—Baginsky strives to impress on young physicians that the child has generally an intact organism, strong to resist and well equipped against pathologic damage, infections and intoxications. It reacts in the most gratifying way as a rule to slight therapeutic assistance. Strong drugs and methods are not required except extremely rarely, and then only in economical dosage. He reports the details of eight cases of pneumonia in children to serve as guides to therapeutic procedure in general. The main point is to trust Nature's recuperating powers, watching to reenforce her when she is not quite competent alone, always bearing in mind that, for children especially, we must refrain from doing harm by any unnecessary interference.

60. **Stenosis of the Pylorus in Infants.**—Forcart reports 15 cases; there was no nervous taint in the family. Nine of the children were the first born. Delivery had been normal in 11 cases. Only 4 of the children were breast-fed. The first symptoms of the stenosis developed in the second up to the seventh week of life. Thirteen were boy babies and all were much constipated. In only a third of the cases were there any signs of spastic phenomena elsewhere. Lavage of the stomach had no influence on the stenosis. One child died from inanition but 10 left the hospital entirely cured, mostly by the fourth to sixth week, but in some the stenosis kept up for from twelve to twenty weeks. If no benefit is apparent by the sixth week, an operation should be considered. The curves are given for each case, and the necropsy findings in the 3 that succumbed to pneumonia or inanition. No anesthetics or sedatives by the mouth gave any relief. The children's strength was kept up with nutrient enemas.

Berliner klinische Wochenschrift

April 19, LII, No. 16, pp. 393-424

62 Optochin in Treatment of Pneumonia. G. Rosenow and A. Peiper.
63 Improved Technic for Study of the Urine in Acidosis. (Ueber die Reaktion auf Acetessigsäure nach Gerhardt.) L. Lichtwitz.
64 Salvarsannatrium. C. Gutmann.
65 Acute Idiopathic Destructive Tracheobronchitis; Two Cases; Both Fatal. C. Hart.
66 Bile Pleurisy from Transpleural Wound of the Liver; Recovery after Resection of Ribs. v. Gaza.
67 Diathermy in Treatment of War Injuries and War Diseases. A. E. Stein.
68 Tetanus Affecting One Side Only. (Tetanus lateralis.) A. Harf.

Correspondenz-Blatt für Schweizer Aerzte, Basel

April 24, XLV, No. 17, pp. 513-542

69 *Nature's Method of Autotrephining and Valve Production to Relieve Steeple Skull. (Ueber die Selbsttrepanation der Natur beim Turmschädel und über das Wesen des Turricephalus.) J. Strebel.
70 *Endemic Goiter. (Weitere epidemiologische Untersuchungen über den endemischen Kropf.) R. Klinger and T. Montigel.

69. **To Save Vision with Steeple Skull.**—Strebel discusses various typical shapes of the skull from premature ossification of the fontanels, especially as they affect vision and hearing. The last few years have brought a realization of the clinical importance of steeple skull, oxycephalus, turricephalus, hypsicephalus and pyrgocephalus, as they do not permit the normal expansion of the growing brain. The eyes protrude on account of the shallowness of the orbit with steeple skull, but the most serious consequence of it is the frequent atrophy of the optic nerve, with both central and peripheral loss of vision. Choked disk first develops, then optic neuritis follows, and atrophy is the next stage. It is a simple descending atrophy, from the mechanical injury of the nerve in the orbit or base of the skull or both, but the condition finally cannot be distinguished from true primary atrophy. In seven of nine such cases in the last four years, Strebel found evidences of this secondary atrophy. It develops usually before the age of 7, and boys are affected more frequently than girls. Headache and cramps have been noticed in some cases but as a rule there are no symptoms on the part of the brain. In two of Strebel's cases there were clonic convulsions with vomiting and loss of consciousness as signs of the chronic pressure on the brain.

In all cases of optic atrophy of dubious origin roentgenoscopy may first give the clue. It reveals further how Nature seeks to relieve in such cases by allowing holes to develop at the points where the skull is worn thin by the pressure. Holes up to 1 cm. long are worn through under the scalp and can be seen in the Roentgen picture. This is a kind of autotrephining, forming safety valves. Nature thus shows how to treat the disturbances from these abnormally shaped skulls. In one such skull there was one quite large hole and eleven small ones. As Strebel was examining this skull, it suddenly dawned on him that these holes explained why this person had had no visual disturbances during life notwithstanding the extreme steeple shape of the skull. Even the roofs of the orbits were worn through.

The roentgenograms in one case described in detail show the internal findings of pronounced steeple skull although externally it was scarcely apparent. In this family there was a history through four generations of congenital dislocation of the lens and congenital heart defects. Premature growing together of the fontanels is responsible for the trouble later: the brain continues to grow but there is not room enough for it in the prematurely solid skull. After blindness has once developed there is no chance for restoration of vision by any measures. But before this stage is reached, decompressive operations are liable to ward it off, making multiple openings where roentgenoscopy shows they are most needed. Family physicians and pediatrists should be on the lookout for a tendency to steeple skull; choked disk from this cause may develop in early childhood, even in the first months of life. The cases of partial turricephalus, without impairment of vision, demonstrate that Nature is able to cure or at least to arrest the tendency unaided. A visit to any blind asylum will usually show typical specimens of steeple skull, and Homer described a skull of this kind in Thersites. There are usually other anomalies in development in these cases, as Homer noticed.

70. **Endemic Goiter.**—Certain families and certain houses in the Swiss towns investigated show a remarkably large number of cases of goiter, but the water supply is the same as that for all their neighbors who are free from goiter. There is no direct inheritance of goiter, but there is unmistakably an inheritance of a predisposition to it when the exogenous factors come into play. Klinger and Montigel urge practitioners to collect family data on goiter.

Medizinische Klinik, Berlin

April 25, XI, No. 17, pp. 469-500

71 *The War and the Nervous System. (Einige allgemeine Bemerkungen über den Krieg und unser Nervensystem.) E. Redlich.
72 *Treatment of Consequences of Concussion of the Brain. (Folgezustände von Gehirnerschütterung.) E. Weber and Neubert.
73 *Hygiene in the Field. P. Kuhn and B. Möllers. Commenced in No. 15.
74 Typhus. (Kriegstyphus.) H. Boral. Commenced in No. 16.
75 Skin and Venereal Diseases in the Army. E. Brinitzer.
76 *Nonalcoholic Drinks from the Standpoint of Public Health. (Die alkoholfreien Ersatzgetränke vom Standpunkte der öffentlichen Gesundheitspflege.) G. Fehsenfeld.
77 *Walking Casts. (Eine billige Gehhülse.) P. Köhler. (Eine ausziehbare Gehgiphose mit Extension bei Fraktur des Oberschenkels.) K. Gerson.
78 Tabes Excludes Military Service. (Tabes und Heeresdienst.) G. Flatau.
79 Professional Secrecy from Medicolegal Standpoint. (Die Beschlagnahme von Krankengeschichten.) R. M. v. Olshausen.

71. **The War and the Nervous System.**—Redlich comments on the milder course of traumatic neuroses in this war in comparison with those in time of peace. The men affected are young and vigorous and the question of an indemnity does not influence the course, but the main factor, he thinks, in the comparatively favorable outcome is the authority of the discipline of military environment. The present experiences confirm Redlich's long held opinion that it is much better in cases of traumatic neuroses for the physician to refrain from paying too much attention to the patient's many disturbances, great and small. The physician's authority should be exerted to stimulate the patient to abstract himself from his troubles. In military circles, in the civilian population and in the refugees from the regions devasted by the war, the nervous system is bearing the strain far better than one would anticipate. Serious nervous affections seem to be restricted almost exclusively to those with a previous nervous taint. The predisposed break down, and melancholia and manic-depressive psychoses are comparatively common among such. Under ordinary circumstances their predisposition might never have been roused from its latent phase. In conclusion Redlich remarks "In future not only medical men and theorists but economists and statesmen will have to pay more attention to eugenics and to the training of the young in character and in physical endurance as well as training the mind. The longing for an everlasting peace will still be a Utopian dream in times to come as in the past. Hence we must do everything to promote efficiency and resisting power in young and old."

72. **Treatment of Concussion of the Brain.**—Weber refers only to cases in which the man was totally unconscious for a time after the injury, usually a fall on the head, or a wound of the skull from a bullet or scrap of shell, without actual lesions of the brain. The disturbances that follow are generally headache, restless sleep, dizziness in climbing stairs or walking fast, and inability to do any muscular work, sweating and having to give up when such is attempted. He has found that in such persons the distribution of the blood during muscular exertion differs from the distribution under normal conditions. The concussion injures the central mechanism for the innervation of the blood vessels; both the peripheral and the cerebral blood vessels are involved. It seems plausible to assume that this is the cause of the headache and other symptoms which follow and persist after concussion of the brain. The headache and dizziness are connected with the damaged central mechanism for the innervation of the vessels, as also the weakness and inability to do muscular work. In treatment, drugs gave no relief but surprising benefit was realized from alternating hot and cold douches. At first the relief is transient, but the improvement becomes permanent under a course of the alternating douches. The relief is striking within half an hour even after one alternating douche and in two or three weeks the improvement becomes a complete cure. The douches are given with hot and cold water for half a minute each (14 and 45 C. or 59 and 113 F.) applying the cold jet a trifle longer than the hot, and ending always with the cold. The cold seems to be the active factor; its effect is merely enhanced by the hot jet. Seven cases are described to illustrate the prompt and reliable curative action of the procedure in these conditions, and Weber also describes how he registers the dilatation of the vessels in the hand or forearm during some strictly localized muscular exertion, such as dorsal and plantar flexion of the foot, hanging free. After concussion of the brain the vessels shrink, instead of becoming distended, during this muscular exertion.

73. **Hygiene in the Field.**—Among the various measures enforced or contemplated to keep the troops in health, Kuhn and Möllers mention that it is the plan to repeat the anti-typhoid inoculation after a five-month interval. Every tuberculosis suspect is sent home, and careful search is made through the civilian population for consumptives and suspects, and they are isolated in the public hospitals if possible. When this cannot be done, they are left in their homes; the houses are placarded and all intercourse with soldiers is prohibited.

76. **Nonalcoholic Drinks.**—Fehsenfeld has made a special study of the various beverages on the market which contain no alcohol. He has thus tested the output of fourteen firms; their fruit juice and malt beverages are kept from spoiling by pasteurizing, by thickening with sugar or by vacuum distillation. They are nutritious while supplying the mineral salts, etc., urgently needed by the tissues. From every point of view they are desirable except that one tires of them more easily, and that they do not have the same appetizing effect as alcoholic beverages. They are also more liable to adulteration and to the use of harmful preservatives. But since the Freie Vereinigung deutscher Nahrungsmittelchemiker, an association of food chemists, set up standards for such beverages in 1911, a large number of very good alcohol-free wines, beer and sterilized fruit juices have been put on the market. The main thing now is to uproot the tradition that a jolly company must have alcoholic drinks to be a success, and further, to convince the public that the amounts of alcohol which are extremely moderate for one person may be far too much for his neighbor. It must also be impressed on the public that even the "extremely moderate" use of alcohol is not always free from danger.

77. **Walking Casts.**—Köhler and Gerson give illustrated descriptions of inexpensive plaster splints and casts, with strip-iron stirrups, which allow the patients to be up and about. Gerson's cast not only immobilizes but exerts adjustable extension. This is realized when the patient is sitting or standing by overalls fastened to the stirrup and held up by suspenders. The pressure from the overalls on the stirrup and thus on the cast is ample to hold the cast in place and thus keep up the extension for a fractured femur, for instance. The pelvis and hip are not included in the cast; it fits against the tuberosity of the ischium. The cast can be cautiously pulled off at any time for inspection and massage of the limb, and the foot can be massaged and exercised without disturbing the apparatus.

Münchener medizinische Wochenschrift, Munich

April 20, LXII, No. 16, pp. 537-572

80 Sudden Ptosis of Liver from Perforated Gastric Ulcer. (Ein röentgenologisches Phänomen bei perforiertem Magengeschwür.) W. Weiland.
81 Typhoid Bacilli Found Less Frequently in the Blood in Typhoid in the Vaccinated. (Einfluss der Typhusschutzimpfung auf den Nachweis der Typhusbazillen im kreisenden Blut.) H. Hohlweg.
82 The Blood Picture after Vaccination against Typhoid and Cholera. (Das Blutbild bei Typhus- und Choleraschutzimpfung.) H. Lipp.
83 *Excellent Permanent Results of Operative Treatment of Elephantiasic Edema. E. Kondoléon.
84 Hygienic and Medical Notes in Southern Tunis. J. Grober. Commenced in No. 15.
85 Treatment of Skin and Venereal Diseases in the Field. W. Gennerich.
86 *Gunshot Wounds of the Lung. (Lungenschüsse und deren Behandlung durch Punktion und Einlassen von Luft in die Brusthöhle.) H. Ehret and L. Krez.
87 *Bayonet Wounds of the Lung. K. Herrenschneider.
88 *Ligation of Common Carotid after Gunshot Injury. F. Riedinger.
89 Vermin Fumigating Shed. (Die Ungezieferbekämpfung in einem Kriegsgefangenenlager.) L. Schlesinger.
90 Extension with Aid of Varnish. (Extensionsverbände mit dem Heusnerschen Wundfirnis.) O. Fleuster.
91 *Tardy Effects on Nervous System of Wounds in War. (Ueber die durch den Krieg bedingten Folgezustände im Nervensystem.) Saenger. Commenced in No. 15.
92 Hexamethylenamin Should Not Be Given in Typhus. (Zur Behandlung des Fleckfiebers.) F. Levy.

83. **Operative Treatment of Elephantiasis.**—Two years have now elapsed since Kondoleon first excised the deep fascia in the leg to improve conditions in chronic edema with elephantiasis. Several have applied this technic since, including Royster, whose favorable report was published in THE JOURNAL, May 30, 1914, p. 1720. Kondoleon has performed the operation on eleven patients, in four cases on both legs. The details and the ultimate outcome in ten cases are given in full. Two of the patients were entirely cured and three materially and permanently improved; two were slightly improved and in one patient the former condition returned. The outcome is not known in the other cases. Improvement occurred constantly when the tissues were still comparatively elastic; the failures were only in the very old, chronic cases with tough, hardened soft parts. The complete cures and the essential improvement realized in a considerable proportion of the cases are particularly gratifying, as we previously have had no means to influence this affection. Kondoleon does not describe his technic here, but it was given in THE JOURNAL, Sept. 12, 1912, p. 977, from his early report on the subject.

86. **Air Treatment of Gunshot Wounds of the Lung.**—Ehret says that none died of the 100 soldiers with gunshot wounds of the lungs he has examined or treated from five to twenty days after their injury. He ascribes this favorable outcome to his practice of puncturing the chest cavity and letting in air. This aids in expelling all secretions, and the pressure of the air tends to prevent bleeding and reduces the tendency to retraction and adhesions which are so common with gunshot wounds of the lungs not treated in this way. Even when the exudation is not enough to require puncture, yet adhesions are warded off better by this puncturing and letting in air. It is possible but not yet definitely settled that the artificial pneumothorax thus induced may break up adhesions already formed of recent date. He uses ordinary air and has never had any unpleasant by-effects with the method.

87. **Bayonet Wounds of the Lung.**—Herrenschneider reports a case in which a bayonet had passed through the entire chest, entering the right fourth interspace and emerging near the third thoracic vertebra. After the first day or so the temperature was normal or nearly so and except for a slight cough without expectoration the man suffered no discomfort. The pleural effusion was sterile at first but later an anaerobic bacterium was cultivated from it. Treatment was with absolute repose alone, except that a little codein was given to suppress the slight cough, and in less than six weeks after the injury the man was able to leave for home to complete his convalescence. Such experiences testify that it is not necessary to resect ribs, as some advise in treatment of bayonet wounds of the chest.

88. **Ligation of the Common Carotid.**—Various measures have been proposed to ward off the serious results liable to follow the sudden shutting off of the supply of blood to the brain by ligating the common carotid. Smoler advises slow "strangling" of the artery, shutting off the circulation by stages as it were, and Ceci advises ligating the internal jugular vein at the same time as the artery, thus impeding the escape of the blood from the brain. Riedinger recently had a soldier in his charge who had been shot just below the right mastoid process, the bullet passing out through the floor of the mouth. Serious arterial hemorrhage came on the eighth day and recurred again and again. Riedinger threw two ligatures around the common carotid and also around the internal jugular vein. No disturbances on the part of the brain were observed and the wound healed promptly. This experience sustains Ceci's views as to the advisability of ligating the vein at the same time as the artery.

91. **Nervous Affections from Wounds in War.**—Saenger reports a number of interesting cases encountered at Hamburg among soldiers wounded in the head or spinal cord, and discusses a number of special points. This war has shown that concussion or commotion of the spinal cord is liable to arrest temporarily its functioning even when the cord itself was not touched by the bullet. There does not seem to be any special "war neurosis," but pathologic psychic reactions to the stress, both physical and emotional, of the war are common in the predisposed. He deplores Oppenheim's recent revival of the idea of "traumatic neuroses," saying that this conception should be repudiated not only from the scientific but from the practical standpoint on account of the enormous economic burdens it would impose on the state if generally accepted. In conclusion he relates five cases among the civilian population of Hamburg in which emotions connected with the war have led to acute mania or suicide. Numbers of other cases have also occurred, but, on the other hand, he remarks, many persons with unstable mind or nervous system have been steadied and helped by the war. In conclusion he quotes Hindenburg's prophecy: "The victors in this war will be those with the stoutest nerves."

Wiener klinische Wochenschrift, Vienna

April 22, XXVIII, No. 16, pp. 411-434

93 Indirect Gunshot Injury of the Spinal Cord; Three Cases. (Rückenmarkschädigungen durch Wirbelschuss.) E. Gamper. Concluded in No. 17.

94 Animal Charcoal in Research on Vaccines. (Verwendung von Tierkohle bei Vakzineuntersuchungen.) J. Hammerschmidt.

95 Unfavorable Experiences with Vaccine Therapy of Typhoid. (Zur Frage der Typhustherapie mit Besredka-Vakzine.) H. Boral.

96 *Participation of the Kidneys in Relapsing Fever. (Mitbeteiligung der Nieren bei Rückfallfieber.) L. Jarno.

97 *Technic for Cultivating Bacteria from the Stools. (Wirkung des Petroläthers auf die Bakterien der Typhus-Koligruppe.) R. H. Jaffé.

98 Sterilization of Clothing with Fumes of Carbon Disulphid. (Neues Entlausungsverfahren.) E. Eckert and A. Fuchs.

96. **Involvement of the Kidneys in Relapsing Fever.**—Jarno remarks that in the accessible literature he has found mention of merely traces of albumin in the urine or hemorrhagic nephritis as the only renal complications of relapsing fever. In his extensive experience at the contagious disease hospital at Ruma, he has found albumin constantly, sometimes in large amounts, and frequently accompanied by granular tube-casts. The findings in 170 cases are tabulated; the albumin appeared in the urine the very first day as a rule and by the second day there was up to 0.5 and 1.5 per thousand and masses of tube-casts. The findings in the urine keep up during the attack but disappear after defervescence, the urine being quite normal by the fourth day. These phenomena recur regularly with each of the relapsing attacks, and the normal urine afterward demonstrates that apparently no serious damage has been done the kidneys. In only one of all his cases have the albuminuria and casts persisted indefinitely since. Hemorrhagic nephritis as a complication was encountered only twice and there was no macroscopic blood. The clinical picture of relapsing fever, including the kidney findings, was favorably influenced by neosalvarsan and to a remarkable extent. As the spirilla are killed off by this drug, the kidneys escape further injury.

97. **Improved Technic for Determination of Typhoid Bacilli in Stools.**—Jaffé expatiates on the superior advantages, the ease, and the reliability of Bierast's benzin method of treating the stools of suspected typhoid carriers. The benzin seems to destroy some substance in the membrane capsule of colon bacilli, and they die off in consequence, while the typhoid and paratyphoid bacilli are not injured by it enough to check their growth. The delay of sixteen hours before the test is conclusive, he says, is a slight drawback which is outweighed by the advantages of the method. The findings in fourteen cases are tabulated. In four cases typhoid bacilli were demonstrated by this means when other methods gave negative results. In the five other positive cases, the typhoid bacilli were in pure culture or there were merely very few colon bacilli in comparison with the luxuriant growth of the former on the ordinary plates. One of the advantages of the technic is that the entire specimen of stool is treated. It is rubbed up with bouillon to a thin suspension. The benzin is then poured on it, as thick as one's thumb, and the glass vessel is corked and vigorously shaken up. Unless the cork is sound and tight, some of the vessel contents might get on the fingers. Bierast himself contracted typhoid, probably in this way, while studying out this technic, and a bacteriologist in a hospital near Vienna has succumbed recently to

typhoid acquired in this way. A rubber cap might be used to cover the top of the bottle, or the benzin might be merely stirred into the suspension. The aim is to expose the colon bacilli to the benzin as thoroughly as possible. The vessel is then set away in a cool place, protected against the light, for sixteen hours. Then one or two drops from the lowest brownish strata are transferred to a series of Drigalski or Endo plates.

Zeitschrift für Urologie, Leipzig

March, IX, No. 3, pp. 81-120

99 *Clinical Importance of the Modern Tests of the Functional Capacity of the Kidneys. (Nierenfunktionsprüfung.) R. Bauer and W. v. Nyiri.

April, No. 4, pp. 121-160

100 *Chronic Painful Nephritis with Apparently Normal Urine; Two Cases. W. Misch.

99. **Comparison of Tests of Kidney Functioning.**—In this communication from the medical clinic at Vienna in charge of Ortner, the detailed findings in the urine with various tests are tabulated, under ten headings, from sixty-eight patients with internal disease, mostly of the kidneys. The elements that make up the Ambard formula are also compared, and the correspondence between the Ambard findings and the clinical picture and course is emphasized. The essential feature and the progress realized with the Ambard method are that no attempt is made to record and compare the intake or elimination of nitrogen. It aims merely to estimate the proportion of urea and of chlorids in the urine and blood at a given moment, and compare the figures. Contradictory findings were never encountered in any of the sixty-eight cases studied; the clinical course and the Ambard findings always harmonized. The figures in the index were within normal range in every case in which the kidneys were sound. For convenience, Bauer classifies nephritis in three groups: glomerular nephritis in a first, second or third stage; nephrosis, alone or associated with glomerular nephritis; and sclerosis, bland or combined with nephritis. The Ambard findings in each group are compared and discussed and the comparatively simple and rapid technic is extolled as well repaying study. (The Ambard formula was described in THE JOURNAL, March 7, 1914, p. 813. His "uremic constant" is the constant ratio between the urea in the blood and the square root of the urea in the urine.)

100. **Chronic Painful Nephritis with Apparently Normal Urine.**—The patients were men of 28 and 45. The attacks of pain in the left kidney region in the first case were so severe that decapsulation was done, which put an end completely to the pains. A scrap cut from the kidney showed evidences of chronic parenchymatous nephritis and yet no albumin nor tube-cast had been discovered in the urine. There was a history in this case of an inflammatory affection of this kidney a few months before, but in the second case no pathologic antecedents were known. This patient also was relieved of all pains by decapsulation of the painful kidney. Misch queries whether this painful nephritis without urine findings may not be merely an early stage of nephrolithiasis. Decapsulation seems to answer the purpose completely. A permanent cure was realized by it in these cases and also in a number in the literature to which Misch refers.

Gazzetta degli Ospedali e delle Cliniche, Milan

April 18, XXXVI, No. 31, pp. 481-496

101 *Croup and Tracheotomy. F. Marinelli.

101. **Tracheotomy in Croup.**—Marinelli presents an array of arguments to impress on the general practitioner the value of tracheotomy for stenosis in croup, and the necessity for his familiarizing himself with the technic so that he can apply it in time. He reports twenty-seven cases to demonstrate the advantages of tracheotomy, making the incision with a bistoury, below the "isthmus" of the thyroid, and only barely large enough to admit the cannula. The patient's breathing must be supervised day and night, and the cannula be discarded at the earliest possible moment. He declares that in general practice tracheotomy should be preferred to intubation, for one reason, because it is the best means at our disposal to ward off secondary pneumonia. He advises it in every case in which the usual measures are not followed by evident improvement. General anesthesia is contraindicated as liable to aggravate the postoperative condition.

Policlinico, Rome

April 18, XXII, No. 16, pp. 517-552

102 *Iodin Treatment of Erysipelas. A. Magi.
103 Instrumental Dilatation of Stenosis of the Urethra. (Candelette metalliche a conduttore per dilatazione uretrale.) G. F. De Meo.

April 25, No. 17, pp. 553-588

104 *Pseudotetanus from Diplococcus Sepsis. T. Pontano.
105 Pathogenesis and Prognosis of Pulsus Alternans. G. Galli.

102. **Iodin in Erysipelas.**—Magi relates that in his experience painting the inflamed region abundantly with tincture of iodin had an "actually brillant effect" on the infectious process, especially with enlargement of the lymph glands in the arm following infected wounds of the hands. The lymphangitis subsided almost constantly after once painting with the iodin, and rebellious erysipelas yielded to repeated applications. In the severest cases he supplemented this with antistreptococcus serotherapy. An attack of erysipelas of the face and scalp on the assistant surgeon at the clinic also yielded promptly to the iodin treatment.

104. **Diplococcus Pseudotetanus.**—Pontano's patient was a man of 77 with an acute toxi-infectious general condition plus a neuromuscular syndrome with painful contracture and intentional spasm. The two syndromes had developed simultaneously, everything suggesting a symptomatic tetaniform status from the same cause responsible for the acute fever and general depression. No benefit was derived from quinin or vigorous salicylic medication. A diplococcus was cultivated from the blood, but the cerebrospinal fluid gave negative findings on repeated examination. Transient benefit was derived from a silver salt injected intravenously, but the condition grew progressively worse, with death the twenty-ninth day after entering the hospital. He had had diffuse pains in the limbs and joints for a few days before the fever developed, and one year before had had an attack of pneumonia, but otherwise no pathologic antecedents were known.

Riforma Medica, Naples

April 24, XXXI, No. 17, pp. 449-476

106 *Primary Alcoholic Degeneration of Corpus Callosum. (Morbo di Marchiafava.) P. Guizzetti and G. Tomasinelli.
107 *Cultivation of Tetanus Bacilli from the Blood. G. Sinigaglia.

106. **Primary Alcoholic Degeneration of the Corpus Callosum.**—Guizzetti relates that Marchiafava was the first to call attention to this primary degeneration of the nerve fibers in the corpus callosum and commissure in men with alcoholic psychoses. The clinical picture in this condition is that of a gradually developing feeblemindedness, with perversion or deadening of the moral sense; there may also be tremor and disturbances in speech, etc. Guizzetti reports, with illustrations of the necropsy findings, a case in a man of 55 who had died of pneumonia. The middle stratum of the corpus callosum and middle of the anterior white commissure showed systematized primary degeneration, but not so extensive as in most of the other cases recorded. For the last few years there had been a gradually increasing tendency to loss of memory, failure at times to comprehend what was said to him, inability to attend to matters outside of his regular routine as meter inspector, and for some years he had complained of headaches and occasional dizziness. He was not a very hard drinker, and his mental impairment had not been severe enough to cost him his position. Guizzetti has since reviewed the 13,000 necropsy reports at the institute of pathologic anatomy in his charge but was unable to find any record of a similar primary degeneration of this region, although he found three cases of ischemic softening, one of primary tumor and one of a metastatic tumor at this point.

107. **Tetanus Bacilli in the Blood.**—Sinigaglia discusses what has been published on this subject and compares with it a case from his own practice in which he was able to cultivate tetanus bacilli from the blood. His patient was a boy of 10 who had stepped on a nail, October 11, signs of

tetanus developing on November 9. Cultures were made from the blood November 16, and two microbes developed, one evidently the tetanus bacillus, and causing tetanus in animals inoculated with it. The tetanus bacilli were not numerous in the blood and seemed to sojourn there only temporarily, but still the blood might serve as a vehicle for infection in case of an operation on a patient with tetanus.

Brazil-Medico, Rio de Janeiro

April 8, XXIX, No. 14, pp. 105-112

108 Brazilian Nematelminth Worms. (Revisão dos acantocephalos brazileiros. I. Fam. Gigantorhynchidae Hamann, 1892.) L. Travassos.
109 *Vagotony. J. de Monlevade.

109. **Vagotony.**—Monlevade has been studying in Austregesilo's service the effect of atropin, pilocarpin and epinephrin on the sympathetic and vagus nervous systems, comparing his findings with those that have been reported by other authors as types of pure vagotony and of what he calls "status vagotonicus." The latter is found in connection with various clinical pictures, on which it imprints a special stamp. Neurasthenia, for instance, epilepsy, or hysteria may be accompanied by a confused and vast train of symptoms on the part of the heart, the digestive tract, the respiration or the vasomotor system, all of which are merely the manifestations of this excessive excitability of the vagus nervous system. Among the infectious diseases, tuberculosis stands at the head with vagotonic disturbances from its very inception. Upsets in the ductless gland system are also fields in which vagotony flourishes exceptionally luxuriantly, as in Addison's disease and exophthalmic goiter. Gastric ulcer may develop in some cases with vomiting, hyperchlorhydria and constipation while other cases are free from them. In the first group the status vagotonicus modifies the clinical picture. Six typical cases of this kind are related, with the response to epinephrin and pilocarpin tests. In every case the reaction to epinephrin and to pilocarpin was exactly the reverse; when one was positive the other was negative.

Semana Medica, Buenos Aires

April 8, XXII, No. 14, pp. 441-472

110 Vaccination against Diphtheria. (La vacunacion antidifterica.) D. Thamm.
111 Functional Stomach Disturbances I. (Hiperestenias gastricas primitivas.) T. Martini.

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

April 17, I, No. 16, pp. 1293-1384

112 *The Tuberculosis Problem in the Tropics. J. J. Van Loghem.
113 The Hospital in Ancient and Modern Times. (Het ziekenhuis voorheen en thans.) J. L. C. Wortman.
114 Study of the Normal Carotid Pulse. (Bijdrage tot de kennis van de polskromme. I.) L. Kaiser.

112. **Tuberculosis in the Tropics.**—Van Loghem is chief of the department of tropical hygiene in the Colonial Institute of the Netherlands, and he has been making a special study of tuberculosis in the Dutch East Indies. He compares the general and the tuberculosis mortality, 1900 to 1904, in thirty-two large cities of the world. Amsterdam and Christiania head the first list in Europe with a general mortality of 15.3 per thousand inhabitants. In Asia, Tokyo heads the list with 18.3 per thousand. Calcutta had 39.3; Manila, 46.7; Batavia, 53.2, and Bombay, 71.4 per thousand. The tuberculosis mortality parallels this range to some extent, Amsterdam having 1.52 per thousand; Tunis, 6.91; Bombay, 6.35, and Batavia, 4.09. New York is cited at 2.21 per thousand.

Van Loghem remarks that as we are learning to keep yellow fever and other tropical diseases under control, tuberculosis in the tropical regions is coming in for greater attention. Study of tuberculosis under tropical conditions is liable to throw light on many of its problems elsewhere. As an example of this he points out that bovine tuberculosis in recent years seems to be spreading, and the milk from tuberculous cows is being used by children and adults more than ever before, and yet human tuberculosis shows a downward tendency everywhere. He regards this as evidence of the nonidentity of bovine and human tuberculosis. The experiences in the tropics sustain this view. For instance, he relates that the stock of cows in the Dutch East Indies is free from tuberculosis. By strict supervision infection from importation of bovine tuberculosis has been warded off, and yet the figures cited show that human tuberculosis is very prevalent. It must have developed without any basis of bovine tuberculosis, as there is none in the islands. These facts settle also the question as to the possible mutation of human into bovine tubercle bacilli, which some have deemed possible. It certainly has not occurred to date in Netherlands India, he affirms. Although human tuberculosis is common, yet the cattle have kept free from it.

Conditions in the tropics throw light further on the influence of infection in childhood on tuberculosis in later life. In the remote interior of the islands, the Pirquet skin tuberculin test has shown that large areas of country are entirely free from tuberculosis. The more intercourse there is with Europeans and Americans on the coast and in the cities, the greater the spreading of tuberculosis to invade the virgin areas from the large centers. In the persons thus attacked for the first time the disease does not behave as in Europeans and Americans who have been immunized to a greater or less extent by infection in childhood. It runs an acute course in young and old alike, very much like the course of tuberculosis in children in the western world. He suggests that it might be well to vaccinate against tuberculosis in these virgin regions, aiming to realize an effect like that realized in Europe and America by the systematic natural vaccination which repeated opportunities for infection confer on the young as they grow up. He remarks that under modern hygiene and control of open tuberculosis, the number of tubercle bacilli in the external world is certainly growing less and less. This suggests that a time is coming when the young will not have the repeated opportunities of the present and past for infection. The young will grow up free from tuberculosis, but, when opportunity for infection does arise, they will be practically virgin soil, like the natives in the interior of tropical islands, and the disease when it attacks them will run the acute course of the nonimmunized. It is possible that Europe may have to face a new invasion of tuberculosis with an acute course and high mortality unless it can be stamped out by vaccination, as smallpox has been rendered harmless in parts of Europe, or unless it can be eradicated like leprosy.

Hospitalstidende, Copenhagen

April 28, LVIII, No. 17, pp. 401-424

115 Advantages of Paraffin with a High Melting Point for Histologic Sections. (Om Indsmeltning i Parafin ved Fremstilling af histologiske Præparater.) O. Thomsen.
116 *Histochemical Basis for Cholesterin Type of Degeneration of Lipoids. (Nogle kritiske Bemærkninger til det histeokemiske Grundlag for Cholesterinsteatosen.) T. E. Thaysen. Commenced in No. 16.

116. **Degeneration of Lipoids.**—Thaysen confines his study of this subject to what he calls cholesterin steatosis, and tells of the various means for its chemical investigation in man and animals, tabulating the results of his own research. He states that they seem to discredit the histochemical bases on which the pathologic anatomists have been building up the theory of cholesterin steatosis.

Ugeskrift for Læger, Copenhagen

April 29, LXXVII, No. 17, pp. 637-682

117 Polydactylism. (Et Tilfælde af Hexadaktyli paa alle 4 Extremiteter.) M. Seedorff.
118 Four Years of Tuberculosis Sanatorium Work. (Nogle Erfaringer om Pleje- og Rekonvalescenthjem for brystsyge.) G. S. Permin.

Correction.—In Abstract 69 in THE JOURNAL, May 8, 1915, page 1620, the number of cases of scarlet fever in which serotherapy was applied was incorrectly stated. The tenth line from the bottom should read: Among 28 patients with extremely severe scarlet fever . . . (instead of "280"). Also the fourth line from the bottom should read: In twelve milder cases normal serum was used and one died. (Instead of "none died.")